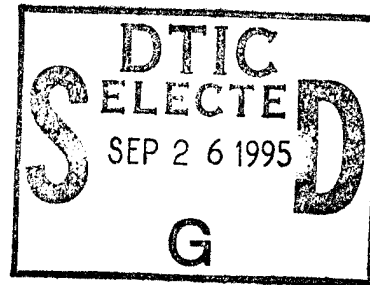


NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

**CONGRESSIONAL BUDGET OVERSIGHT OF
THE MILITARY STRATEGIC AND TACTICAL
RELAY (MILSTAR) SATELLITE
COMMUNICATIONS SYSTEM, FISCAL YEARS
1982-1995**

by

Julius W. Davis Jr.

March, 1995

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Richard B. Doyle
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CONGRESSIONAL BUDGET OVERSIGHT OF THE MILITARY
STRATEGIC AND TACTICAL RELAY (MILSTAR) SATELLITE
COMMUNICATIONS SYSTEM, FISCAL YEARS 1982-1995

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Submitted in partial fulfillment
of the requirements for the degree of

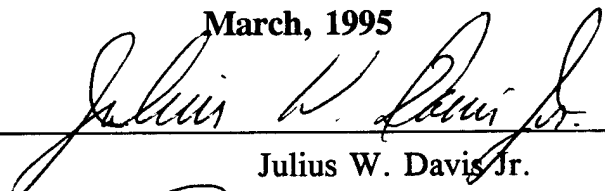
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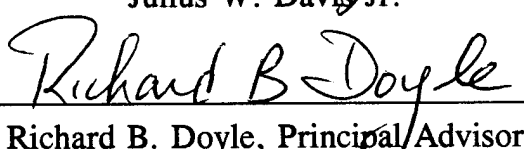
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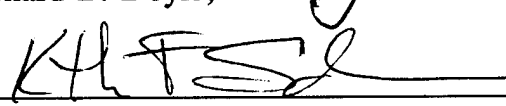
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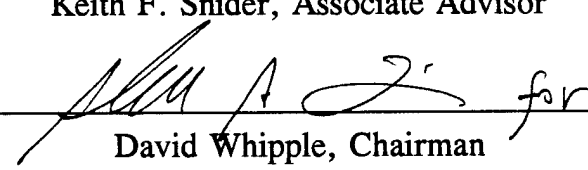
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ABSTRACT

This thesis examines the congressional budgetary oversight exercised by Congress for the Military Strategic and Tactical Relay (MILSTAR) Satellite Communications System acquisition program during Fiscal Years 1982-1995. Authorization and appropriation defense bills for these years are reviewed for their insight into how and why the four Defense Committees exercised their budgetary oversight. The MILSTAR program generated significant congressional debate and was nearly terminated. The program was significantly restructured as a consequence of decisions made by the Defense Committees. These four Defense Committees are examined throughout the budget oversight process to identify their specific roles. The research indicates that the Defense Committees sometimes acted in unison with respect to MILSTAR and sometimes acted independently. No one committee consistently opposed or supported MILSTAR. The research also indicates that the appropriation committees exercised as much or more oversight authority as the authorizing committees. Another conclusion is that DOD could have been more pro-active in assessing and restructuring MILSTAR's mission during the shift from a Cold War to a Post-Cold War threat environment, especially during a period of shrinking defense dollars. The final conclusion is that the joint acquisition management structure for MILSTAR brought forth new DOD joint acquisition funding allocation problems, as the Services who generated the demand for MILSTAR system requirements did not necessarily have a corresponding role in paying for them.

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I. INTRODUCTION

The United States military buildup in the early and mid 1980's brought forth several new military acquisition programs for the Department of Defense (DOD). These programs were motivated by a threat from a nation that President Ronald Reagan had labeled an "evil empire." During most of this decade, the Cold War with the "evil empire," the Soviet Union, was alive and well. [Endnote 1, p. 140]

Today's global climate is drastically different. The Soviet Union has collapsed, the Berlin Wall has been leveled, and the U. S. now finds itself trying to define the threat from a very ambiguous environment in which there is no major threat to replace the Soviets. There are however, many potential regional conflicts which could significantly tax U. S. military capabilities. The DOD challenge today is to continue still needed acquisition programs that were originally designed to counter the Soviet threat, modify where appropriate, and then justify them to a skeptical Congress which sees the reduced threat as an opportunity to advance more domestic programs over less obvious defense acquisitions.

This thesis examines one such DOD acquisition program that evolved from the risk of nuclear war. Its conception concerned how our National Command Authority and strategic military leaders would continue to communicate after nuclear war had begun. The answer came with a new satellite communications system that was specifically designed to survive and operate after a Soviet anti-satellite nuclear attack. That system is the Military Strategic and Tactical Relay (MILSTAR) Satellite Communications System.

The MILSTAR acquisition program is fighting an up-hill battle. Given a shrinking fiscal environment and no major military threat, the Department of Defense must explore how it will present this program to a Congress that is continuously searching for means to cut DOD funding.

This thesis, entitled, "Congressional Budget Oversight of the Military Strategic and Tactical Relay (MILSTAR) Satellite Communications System Program, Fiscal Years 1982 to 1995," will research how Congress in its budgetary oversight role has impacted this acquisition program. It examines the issues, important committees and subcommittees, and the implications for the MILSTAR program due to congressional involvement in its acquisition process. The thesis is written as an instructional tool or guide to assist individuals in the acquisition field to better understand how Congress interacts and affects DOD acquisitions, especially high-profile, space-related ones such as MILSTAR.

A. AREA OF RESEARCH AND RESEARCH QUESTIONS

This thesis will analyze the role that Congress has played in the MILSTAR acquisition program and how the legislative process has impacted MILSTAR's acquisition since its beginning in 1982 to the present. The primary research question within this thesis is: How has Congress in its budgetary oversight role impacted the MILSTAR Satellite Communications System acquisition program? The subsidiary research questions within this thesis are:

1. What are the primary issues affecting MILSTAR that have been addressed by the Congress?
2. Which congressional committees and subcommittees have played the major roles in the conduct of budgetary oversight of MILSTAR?
3. To what extent have these committees and subcommittees played in the MILSTAR acquisition?
4. How is this congressional budgetary oversight affecting and re-structuring the MILSTAR program?
5. What are the implications of this re-structuring for the MILSTAR program?

B. DISCUSSION

The Department of Defense established the MILSTAR program in 1981 as a joint development acquisition among the Air Force, Navy, and Army. It is designed to be a highly survivable satellite communications system, particularly resistant to electronic jamming through use of the extremely high frequency band. Its users include the National Command Authorities, chief military commanders, and strategic and tactical forces who rely on critical command and control communications. Its original emphasis was on strategic nuclear warfighting by including a low-data rate communications capability, primarily for sending emergency action messages to U. S. strategic forces during an attack.

During the past twelve years, DOD has invested about \$8 billion in the MILSTAR program, which has experienced several changes, delays, and cost increases. Each MILSTAR satellite placed in orbit will cost about \$1.3 billion - \$1 billion for the satellite and about \$285 million for the Titan IV launch vehicle. The first satellite, which was originally scheduled for a 1987 launch, was launched on February 7, 1994. After this first launch, annual operating expenses for satellite control purposes are expected at about \$110 million. [Endnote 2, p. 5]

With the fall of the Berlin Wall and the correspondingly diminished Soviet threat, congressional leaders in 1990 considered MILSTAR's cost too high, its support to tactical forces inadequate, and its nuclear war-fighting capabilities unnecessary for deterrence. These concerns emerged in the National Defense Authorization Act of 1991 which directed the Secretary of Defense to develop and carry out a plan for either a restructured MILSTAR or an alternative advanced communications satellite program. DOD decided to restructure the program. [Endnote 3, p. 5] The current debate between DOD and the Congress concerns this structure and how it will be implemented.

Congress plays an important role in DOD acquisitions and the MILSTAR program is no exception. There are significant issues which congressional leaders must address, such as strategic and operational requirements and capabilities, system or program alternatives, funding and scheduling. These issues have had significant impacts on the MILSTAR program. Analyzing these impacts can give a better picture of how Congress is addressing this program given a downsizing military and a correspondingly shrinking defense budget. Knowing how and why Congress has exercised budgetary oversight over this program can help DOD plan and manage high profile acquisition programs.

C. SCOPE AND METHODOLOGY

This thesis will examine the role that Congress has played in the MILSTAR acquisition cycle since its beginning in 1981. Operational and technical characteristics will be examined in the context of how they affect costs, scheduling, contractor relationships, and political interests. From this analysis, conclusions and implications will be derived to determine possible lessons learned for the MILSTAR system and other DOD acquisitions.

The thesis uses an historical perspective of congressional resourcing and policy direction to give a foundation for the current status of the MILSTAR program. The author will review Congressional and DOD documents of actions on authorization and appropriation requests for fiscal years 1982 to 1995, House and Senate hearings and testimony regarding MILSTAR for the same time period, current periodicals, journals, and news reports to identify and describe congressional actions regarding MILSTAR and how these actions have impacted its acquisition process.

D. CHAPTER OUTLINE

Chapter I: Introduction/Methodology/Thesis Questions - This chapter will define the scope and magnitude of congressional budgetary oversight of the MILSTAR program, identify the research questions, and describe the approach taken to answer them.

Chapter II: MILSTAR Program Background - This chapter will provide the historical background of the MILSTAR program.

Chapter III: Congressional Budgetary Oversight Of Military Acquisition Programs - This chapter will overview the congressional oversight process for defense programs and discuss the structure of key congressional committees and how they operate in the defense budget process.

Chapter IV: Congressional Budgetary Oversight of the MILSTAR Program During the Cold War Years (FYs 1982-1989) - This chapter will examine the congressional committees and subcommittees holding budget oversight responsibility for the MILSTAR program and give an historical perspective of legislative actions taken through congressional authorizations and appropriations for fiscal years 1982 to 1989.

Chapter V: Congressional Budgetary Oversight of MILSTAR -Program Restructuring and Revitalization (FYs 1990-1995) - This chapter will continue to examine the congressional committees and subcommittees holding budget oversight responsibility for the MILSTAR program and give an analysis of legislative actions taken through congressional authorizations and appropriations that significantly restructured and altered the mission of MILSTAR.

Chapter VI: Conclusions and Recommendations - This chapter will summarize and discuss the MILSTAR issues addressed in previous chapters and give recommendations for additional research topics.

E. BENEFITS OF RESEARCH

This thesis will identify the issues and actions that are before Congress and how the legislative oversight role has affected the MILSTAR satellite communications system program. Knowledge in this area can be beneficial to DOD officials by identifying and assessing congressional concerns regarding this program's acquisition. This enables DOD to better respond to and prepare for these congressional concerns and it can also help to prepare for future DOD acquisitions, particularly high-profile, space-related programs.

ENDNOTES

1. Mandelbaum, Michael. "The Luck of the President," *The Reagan Foreign Policy*, Ed. William G. Hyland. New American Library, New York, N. Y. 1987.
2. United States General Accounting Office, Military Space Programs: Opportunities to Reduce Missile Warning and Communication Satellites' Costs, GAO/T-NSIAD-94-108, Washington, D. C., February 1994.
3. United States General Accounting Office, Military Space Programs: Comprehensive Analysis Needed and Cost Savings Available, GAO/T-NSIAD-94-164, Washington, D. C., April 1994.

II. MILSTAR PROGRAM BACKGROUND

A. INTRODUCTION

The Soviet Union began man's use of satellites with its launching of the Sputnik satellite in October 1957. The U. S. soon launched its own satellite, Explorer 1, in January of 1958, and since then man has generated a proliferation of satellites for uses such as weather prediction, geophysical studies, and navigation. The most common use though has been for global communications which have transmitted media such as television (video), telephone (voice), and teletype (digital data) to all corners of the globe. Satellites have made a profound impact on how man communicates and they continue to provide a significant vehicle for ideas to improve this capability. [Endnotes 1, 2: pp. 13-14, p. 7]

This communications capability through satellites has not been ignored by the world's military forces. The U. S. military is no exception as it has led in military communications worldwide as part of maintaining technological superiority for military readiness. The continuous debate about maintaining the proper and correct technological edge has increased in recent years among congressional leaders and Pentagon officials concerning a new satellite program.

The DOD is seeking to preserve support for the MILSTAR satellite communications program, a system best known for its original role of providing strategic communications in a nuclear war. Today, with a new international security environment, the MILSTAR program is being modified to adjust to a new threat. This new threat does not include a new major adversary such as the former Soviet Union, but shows more potential for smaller adversaries and regional conflicts involving conventional forces. The essence of MILSTAR is that the satellite network can provide joint

operability among the services for command and control purposes [Endnote 6].

The pro-military support and patriotic fervor that swept through the U.S. during Operations Desert Shield and Desert Storm in 1990-91 has subsided. Since that time, the cry from the American public has been for the federal government to exercise fiscal restraint and concentrate on domestic social programs. History is repeating itself as the American public has traditionally wanted to cut the military after a war or conflict and to focus on the country's own problems. This sentiment occurred after World Wars I & II, the Korean War, and the Vietnam War. After each conflict, there was a major military drawdown.

This is the environment that the DOD is facing today as forces are being decreased and risky acquisition initiatives and programs face tougher battles for either program start or continuation. In this changed environment, the U. S. Congress has a more profound impact on the oversight and direction of the country's budgetary resources. It thus becomes the primary gateway through which successful military acquisition programs must pass.

Given this situation, the DOD must reassure a critical U. S. Congress of MILSTAR's military necessity with its new scope and application. It must also do this very convincingly as even strong military supporters in Congress will more objectively examine the program's feasibility and practicality.

B. MILSTAR GENERAL DESCRIPTION AND PLAN

The MILSTAR system has been designed to be highly survivable and particularly resistant to electronic jamming. Its original emphasis was on strategic nuclear warfighting communications for the National Command Authority and strategic military commanders. This emphasis has changed from a nuclear war scenario to one requiring improved communications

capabilities for not only the nation's senior leaders, but also for strategic and tactical military forces. [Endnote 4, p. 5]

The original plan envisioned an eight satellite constellation. After DOD restructuring to reduce costs and to adapt to a new security environment, the constellation size was reduced to six. The MILSTAR program includes two types of satellite, MILSTAR I and II. The follow-on satellite system for MILSTAR II has recently become known as MILSTAR III.

The original design called for a low-data rate (LDR) communications payload which was suitable for sending command and control information during a nuclear war. Satellites with this capability are known as MILSTAR I. A medium-data rate (MDR) capability was developed after the program's restructuring to better handle the kinds of communications traffic, data rates, and volume that the military would expect into the next century [Endnote 6]. These MDR capability satellites are commonly known as MILSTAR II.

All satellites will have LDR capability, but only satellites three through six will have the MDR capability. When it was decided to add MDR capability, satellites one and two were already far enough into production that it would not have been cost efficient to cancel them altogether. MDR capability will increase the satellite's communication capacity and improve its anti-jam capability.

MILSTAR is the most advanced communications satellite ever built, combining new technology developments which are being used for the first time. These satellites will initiate use of the Extremely High Frequency (EHF) spectrum. This feature, along with frequency hopping techniques, will make enemy interception more difficult and also allow for the use of smaller and more mobile terminals. This ability will enable satellite networks to be established in minutes rather than the hours or even days previously required. [Endnote 6]

Along with the initial use of the EHF spectrum, MILSTAR has advanced on-board signal processing, which essentially makes the satellite network an automated switchboard in the sky. The system's crosslinks allow satellite-to-satellite communications relay, which effectively eliminates the need for any ground relay stations. Users talk directly to each other via the MILSTAR satellite.

The first satellite of MILSTAR I was launched on February 7, 1994 and plans call for the second satellite to be launched in Fiscal Year (FY) 1995. Satellites three and four of MILSTAR II are planned for launches in the years 1999 and 2000 respectively. Satellites five and six are planned to be launched in the years 2001 and 2002 [Endnote 8]. Eventually, satellites one and two will be deleted from the constellation and this will leave a four-satellite network with MDR capability.

The follow-on to MILSTAR II is MILSTAR III which is an advanced satellite concept that will incorporate technologies that were not available when MILSTARs I and II were designed. It will use the less expensive Atlas medium launch vehicle rather than the expensive Titan IV launch vehicle which has been used for the previous MILSTARs. It is scheduled for launch in FY 2006. [Endnote 3, pp. 6,7]

C. ORIGIN OF PROGRAM

The MILSTAR concept grew out of a debate in the DOD in 1979-81 over the preferred satellite successor to the Air Force Satellite Communication System. This system had been the mainstay for the military's strategic communications capability, but due to system deficiencies and the need to replace a critical component, there evolved the idea of a follow-on system that had an emphasis on resistance to jamming and spacecraft survivability. [Endnote 5, p. 2]

The Air Force wanted to procure single-purpose satellites and designate them as the Strategic Satellite System (STRATSAT) which would have these satellites orbit at an altitude of 110,000 nautical miles to strengthen survivability. The system would use EHF frequencies, a previously unused portion of the radio spectrum. It would also have advanced electronic features to increase resistance to jamming and improve performance in a disturbed electromagnetic environment. [Endnote 5, p. 2]

The Defense Science Board though, favored using a single channel transponder package (the transponder transmits the downlink signal by responding to the uplink signal) on future satellites. Proponents contended that an assortment of these transponders aboard several future military satellites would be more likely to survive a Soviet anti-satellite attack and be more cost effective than a system restricted to four STRATSAT satellites. Neither of these systems was chosen.

The STRATSAT concept posed problems because the satellite would have to be extremely large with very big receivers in order to communicate over such a great distance [Endnote 6]. The cost effectiveness of the single channel transponder system was seen as modest given that it would have to equal STRATSAT's expected capacity, availability, and jam resistance. Instead of these two proposals, the DOD decided to establish a communications satellite architecture review that advocated a multi-mission satellite [Endnote 5, p. 3].

In 1981, President Reagan announced the strategic modernization program which led to the formation of the MILSTAR mission and program. This modernization program consisted of five elements, of which improvements in communications and control systems were considered the element with the highest priority for improvement and development. In 1983, President Reagan designated MILSTAR as a program of highest national

priority with Lockheed Missile and Space Company selected as the prime contractor. [Endnote 5, p. 3]

D. FORMATION OF PROGRAM

The Air Force initiated the MILSTAR program in November 1981 and was designated the lead service for this joint acquisition for the Army, Navy, and Air Force. The program is divided into three segments - the space segment, the mission control segment, and the terminal segment.

The space segment originally consisted of a constellation of eight satellites, but this constellation has been downsized to six. These satellites will be cross-linked to provide worldwide communications coverage to all areas between 65 degrees north and 65 degrees south latitude through the use of electronically controlled and mechanically steered antennas. The mission control segment, which controls the satellites while in orbit, is directed from a fixed location at Falcon Air Force Base, Colorado. The terminal segment consists of fixed and mobile ground terminals, ship and submarine terminals, and airborne terminals. The three services each have their own terminal development program offices which are directed overall by the joint terminal program office managed by the Navy. [Endnote 6]

The program's fiscal start officially began in FY 1982 with \$16 million appropriated for the Advanced Space Communication program and \$32 million for the Air Force Satellite Communication System program. Specific funding for MILSTAR was first requested in the FY 1983 budget submission which included satellite and terminal development funds. Beginning with FY 1984, the terminal segment began to be funded in the Air Force Satellite Communications System program, and only the MILSTAR satellite and the mission control segment would be funded in the MILSTAR program. [Endnote 5, p. 4]

The program's overall headquarters is located in the Military Satellite Communications (MILSATCOM) Joint Program Office at Los Angeles Air Force Base, California. This joint program office gives general guidance for the MILSTAR program and is headed by an Air Force general. The MILSTAR Joint Terminal Program Office is located within the Space and Naval Warfare Systems Command under the Navy and reports to the MILSATCOM joint office for direction.

The Army's MILSTAR Project Office is located at Fort Monmouth, New Jersey and is the DOD executive agent for MILSTAR's ground terminal segment. Ground terminal users include the Army, Navy, and Marine Corps, along with the Joint Chiefs of Staff, and the Specified Commanders-in-Chief (CINCs). The Air Force's Terminal Program Office is at Hanscom Air Force Base, Massachusetts. It oversees the development, production, and fielding of command post terminals for airborne and ground operations for the Air Force, Navy, and Army.

E. STATUS OF PROGRAM

Since its beginning, the MILSTAR program has been plagued with schedule delays, cost increases, and program changes which have given MILSTAR critics substance for their attacks. This is the area where the DOD is having to overcome the program's negative aspects and accurately present the military necessity and viability of MILSTAR given the program's historical shortcomings and the budgetary climate of the U. S. Congress.

Over the past twelve years, the DOD has invested about \$8 billion for the MILSTAR program. Each satellite's average cost will be about \$1.3 billion - \$1 billion for the satellite itself and about \$285 million for the Titan IV launch vehicle [Endnote 3, p. 5]. Congressional sources have stated that the program has been troubled by cost overruns averaging 35 percent per year and

that this could run into the billions if the program were allowed to continue [Endnote 7].

With the fall of the Berlin Wall and the collapse of the Soviet Union, congressional leaders in 1990 deemed MILSTAR's costs as too high given that the system's nuclear warfighting features and capabilities seemed unnecessary for deterrence. MILSTAR critics have long cited these huge costs against the program's original and diminishing purpose in addressing its practicality. Also, communications support planned for tactical forces was seen as inadequate for such costs. [Endnote 3, p. 6]

MILSTAR's revised mission of expanding critical communications to strategic and tactical forces has been the sole roadblock in preventing the program's termination. Critics have emphasized that its now defunct Cold War mission is no longer required and thus the program should be canceled. Pentagon officials have countered that MILSTAR offers valuable jamming-resistant communication channels for use by ordinary troops during conventional conflicts [Endnote 8]. With DOD planners considering MILSTAR the cornerstone of their planned satellite communications network for the 1990's and beyond [Endnote 10], their strategy now is to bring to view the military's limitations without MILSTAR and at the same time clearly convey MILSTAR's impacts and enhancements for future military roles and contingencies.

Besides its revised mission, the program's survivability has also been attributed to vigorous support by defense policy heavyweights such as the Secretary of Defense, the Chairman, Joint Chiefs of Staff, and senior congressional leaders such as the Chairman of the Senate Armed Services Committee.

Former Secretary of Defense Richard B. Cheney in 1989 defended the program when the House Defense Appropriations Subcommittee cut the FY 1990 request for MILSTAR by \$632 million. This Subcommittee also

recommended that the satellite network be terminated after three satellites were launched. In a letter to Subcommittee Chairman John P. Murtha (D-Pa.), Secretary Cheney stated that any immediate savings after termination would be offset by funding required to maintain current systems and augment them with some limited EHF capability [Endnote 7].

Secretary Cheney also defended MILSTAR against congressional concerns which arose when the Reagan administration had cut MILSTAR research and development funding in its final defense budget request, only to see the Bush administration restore the program's funding. Secretary Cheney noted these congressional worries about the apparent lack of support for MILSTAR in DOD budget requests. He responded that these cuts were not due to a lack of support, but due to a constrained budget environment and that the program had unanimous support from all the Commanders-In-Chief (CINCs) and two recent Defense Acquisition Boards (DABs). [Endnote 7]

The Senate Armed Services Committee criticized DOD in its FY 1990-91 authorization report for indicating that "funding limits" were the reason that the Air Force would not meet MILSTAR requirements for on-orbit satellites and spares. The committee reported that in DOD testimony and budget justifications, it was clearly shown that MILSTAR was critical to strategic and conventional operations. The committee therefore did not accept "funding limits" as a rationale for not adhering to acknowledged requirements. [Endnote 7]

These and other congressional concerns about MILSTAR prompted its leaders to include directives in the National Defense Authorization Act of FY 1991 for the Secretary of Defense to terminate MILSTAR or develop a strategy to either restructure it or produce an alternative advanced satellite communications program. DOD chose to restructure the program to reflect changing military requirements and reduced defense budgets. [Endnote 9, p. 122]

The restructuring took out the nuclear war-fighting capabilities and expanded the communications role to conventional forces of the Army and Navy. The constellation size was reduced from eight to six satellites and the life-cycle costs were reduced by 25 percent. Secretary Cheney cut costs further by reducing the constellation size from six to four satellites [Endnote 9, p. 122], given that an eventual four MDR satellite network would meet mission requirements. With the restructuring which brought in the MDR capability, the Defense Acquisition Board approved the start of the Engineering and Manufacturing Development Phase for this new communications payload in October 1992.

President Clinton's election in 1992 brought in the new Secretary of Defense Les Aspin who took on the MILSTAR program by first examining it through his Bottom-Up-Review (BUR) of the Defense Department. The BUR looked at the program by addressing the following issues: whether MILSTAR was affordable; whether an advanced satellite concept could be developed in time to eliminate the requirement for all or some of the planned MILSTAR satellites; and whether DOD could do without MILSTAR's capabilities until the advanced system could be fielded [Endnote 9, p. 122].

The BUR report concluded that technologies were not mature enough to accelerate an advanced satellite to replace all or part of MILSTAR and that DOD tactical forces could not wait another ten years for jam-resistant satellite communications. The BUR also concluded that the advanced satellite concept should be pursued to eventually replace MILSTAR after its useful life cycle by the middle of the next decade. The BUR felt that this manner of initiating MILSTAR and then launching the advanced satellite system would achieve additional cost savings so that MILSTAR would now cost less than half of its projected costs as of FY 1991. [Endnote 9, p. 123]

The Army and Navy have become staunch MILSTAR supporters due to the satellite's expanded scope and applications. These two services operate

in close proximity to the enemy where protected communications are vital. The Air Force, in contrast, faces only a minor jamming threat to its rear base communications. With the revised mission, the Air Force sought to terminate the program because it was paying for most of the development costs and the satellite's restructuring left little additional capability for its deployed tactical air wings. Secretary Aspin overruled the Air Force though and kept the program going [Endnote 11]. This Air Force termination request raised the issue of the service that should lead the MILSTAR program; this issue is currently under DOD review.

In 1994, two General Accounting Office (GAO) reports both asserted that the DOD could save over \$2 billion if the new advanced satellite concept, or MILSTAR III, was inserted after satellite four and that satellites five and six should be deleted. DOD is concerned with this proposal in that canceling the last two satellites will leave a two-year gap in attaining a four-satellite constellation with MDR capabilities [Endnote 6]. The Senate Armed Services Committee recently directed the Secretary of Defense to assess the GAO findings and report back to the congressional defense committees no later than December 1994 [Endnote 9, p. 123].

A recent Critical Design Review (CDR) of MILSTAR conducted with the prime contractor, Lockheed Missile and Space Company, showed great promise for the program's successful continuation. A six-satellite constellation with MILSTARs I & II appears to be a reality and fabrication of satellites three through six will occur concurrently. [Endnote 12]

This concurrent production for the remaining satellites, say congressional proponents, will result in a more efficient way of doing business. Cancellation efforts will become harder if the satellites are already built because any savings leverage that could be gained is actually lost after fabrication. This approach should get the program "over the hump" for its survival and progression. [Endnote 12]

Some MILSTAR congressional opponents still argue that the satellite is a Cold War relic. But Senate Armed Services Committee Chairman, Senator Sam Nunn (D-Ga.) recently defended MILSTAR when he stated that opponents attack MILSTAR as it was two and three years ago and not now. Senator Nunn also stated that the Pentagon completely eliminated those features of the satellite which would keep it working during an all-out nuclear war [Endnote 11]. The system's revised mission has helped the program's continuity in this aspect as MILSTAR survived recent congressional budget actions for the 1995 National Defense Authorization Act in both congressional houses.

This thesis will address congressional oversight for the MILSTAR program since its fiscal beginning in 1982 through its latest program status in FY 95. Research will particularly focus on congressional oversight from 1990 when significant congressional interest brought about a major change in the program's mission and structure. The following chapter will give the reader a foundation for understanding congressional oversight of DOD acquisition programs through the defense budget process.

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III. CONGRESSIONAL BUDGETARY OVERSIGHT OF MILITARY ACQUISITION PROGRAMS

A. OVERVIEW OF CONGRESSIONAL OVERSIGHT

The Constitution, Article I, Section 8, gives Congress authority to review government operations and administration. The more common name for this congressional action is "oversight." It is based on the inherent power to appropriate money and see to its proper spending.

Congressional oversight of military affairs was first recorded in 1792 when Congress investigated the poor quality of powder and uniforms which was blamed for General St. Clair's defeat by the Indians in the West. Oversight did not significantly appear again until the 1860's when there was established the Joint Committee on the Conduct of the Civil War. After this episode, congressional oversight was again relegated to a minor role until the New Deal (1930s) and World War II, when suddenly there was much activity for the Congress to oversee. [Endnote 1, p. 97]

Congress exercises DOD oversight primarily through the Defense budget process. Over the past twenty years or more, the scope and level of detail of congressional defense budget oversight have increased significantly with many measures of activity doubling and even trebling in short periods [Endnote 2, p. 1]. The Watergate incident in the early 1970's was a primary impetus in the growth of congressional oversight. It generated new skepticism and further increased the mistrust between Congress and the Executive Branch. This result trickled down to DOD as the number of hearings, testimonies, briefings, and congressional directions to DOD since then have risen sharply. Other factors which have contributed to this oversight growth include the large portion of discretionary spending in the federal budget represented by defense; the desire of members of Congress to

serve constituent interests; and the gradual integration of more liberal congressional members into the defense authorization and appropriation committees who have challenged the status quo. These elements put together over the years have minimized the "coziness" which once existed between DOD and Congress and created an adversarial relationship. [Endnotes 1, 2: p. 20, p. 1]

This adversarial relationship intensified in the 1980's due to the fraud, waste, and abuse that was evident in DOD as stories of hammers and toilet seats costing in the hundreds of dollars painted the nation's newspaper headlines. This brought in even more congressional oversight and increased Congress' skepticism of DOD's ability to manage its business and acquisition activities. Outside agencies such as the General Accounting Office (GAO) were brought in and authorized by Congress to assist in military acquisition program evaluation and assessment.

The impact of this oversight has been that DOD has argued for Congress to concentrate on broad objectives and just give DOD the money to do the job. Congress has responded that it would if DOD would manage itself better, produce weapons that function correctly, and stay out of the newspapers with acquisition mismanagement stories. In short, Congress has become unwilling to grant carte blanche to DOD without having significant oversight in how business is conducted, especially with acquisition programs. [Endnote 1, p. 98]

In this climate, the Secretary of Defense in 1990 wrote a White Paper on the relationship between DOD and the Congress. In its recommendations, re-establishing trust was a first requirement for DOD and Congress to work better together. It stated that the many budget details, which are frequently natural points of antagonism, have had a substantial negative effect on the promotion of productive DOD-congressional relationships. Other recommendations of the White Paper focus on the process and structure for

Congress' budgetary oversight and how it might be improved [Endnote 2, p. 31]. Congressional oversight is a fact for the DOD and using such recommendations as provided by the Secretary of Defense's White Paper may foster a more trusting and productive relationship between the two mutually dependent organizations. In the meantime, military acquisition officials must appreciate congressional viewpoints and make every effort to accommodate and promote good working relationships with Congress. These professional efforts will help DOD to work with Congress in balancing micro-management against reasonable direction. [Endnote 1, p. 99]

The MILSTAR program is a prime example of a program that has experienced keen congressional oversight in its acquisition cycle. It also shows how Congress in its oversight role is able to not only significantly impact a program's very existence, but it also has a great influence on a program's structure and mission.

The following sections of this chapter discuss the structure of the key congressional committees that are involved in the DOD budget process and how the budget process itself operates for the oversight of military acquisition programs.

B. CONGRESSIONAL COMMITTEE STRUCTURE FOR DOD BUDGET OVERSIGHT

Before discussing the main Congressional committees which are involved in the DOD budget oversight process, it is important for the reader to understand first the committees that dominate oversight for defense programs.

Two committees each in both the House of Representatives and the Senate have direct oversight of defense and the DOD budget. They are known as the "Defense Committees." Some 23 standing congressional committees

and subcommittees in both houses have at varying times interest in and some jurisdiction over DOD matters, but it is these four Defense Committees that play the major role and have the greatest impact on the DOD budget process and particularly on DOD acquisition programs. [Endnote 1, p. 21]

1. House Committees

The two important committees in the House of Representatives regarding the defense budget process are the National Security Committee (formerly the House Armed Services Committee), which oversees authorizations, and the House Appropriations Committee (HAC) which oversees appropriations.

The National Security Committee is the re-structured House Armed Services Committee which changed with the new 104th Congress. Its six subcommittees have been reduced to five, of which the Military Procurement Subcommittee and the Military Research and Development (R&D) Subcommittee are of particular interest to DOD acquisition officials. These two subcommittees have direct oversight for authorizations to DOD procurement and R&D programs.

The House Appropriations Committee has 13 subcommittees, of which the National Security Subcommittee (formerly Defense Subcommittee), has direct oversight for appropriations to DOD acquisition programs. The work of the National Security Subcommittee is usually accepted by the full Appropriations Committee.

2. Senate Committees

The two important committees in the Senate regarding the defense budget process are the Senate Armed Services Committee (SASC) which

oversees authorizations and the Senate Appropriations Committee (SAC) which oversees appropriations.

The Senate Armed Services Committee has six subcommittees, of which the Acquisition and Technology Subcommittee directly oversees defense acquisition programs. The Senate Appropriations Committee, like its counterpart in the House of Representatives, also has 13 subcommittees of which the Defense Subcommittee has direct oversight for defense appropriations for procurement and R&D programs. And again, as in the House, the work of the Defense Subcommittee is usually accepted by the full Appropriations Committee.

DOD acquisition officials are naturally most concerned with these four Defense Committees. Depending on the nature of the four chairmen, these four committees have shown tendencies of independence within Congress. Their members wield substantial influence concerning formulation of defense policy, programs, weapons and their management and execution. Their staffs are generally regarded as experienced, capable, and realistic. [Endnote 1, p. 27]

The Defense Committees have tended to attract Members interested in defense policy and benefits derived from the defense budget. The military has a natural support base among these Members since most represent military bases or defense industries. Although Members of these four Defense Committees could be labeled as "pro-defense," with DOD mismanagement and the introduction of differing viewpoints, these Members are more objective and thus are not necessarily "pro-DOD." In particular, the National Security Committee of the House has in recent years attracted Members who wish to change the course of defense policy or activities. This has resulted in diverse views on defense policy and programs and has contributed to the more watchful eye of Congress. [Endnote 1, p. 20]

This is the operational environment that DOD acquisition programs such as MILSTAR confront. DOD officials must realize the scrutiny and level of detail that they are expected to know and present to Congress to satisfy congressional concerns. An acquisition program's three critical factors of cost, schedule, and performance have far-reaching impacts as Congress uses these factors through the defense budget process in exercising its acquisition oversight responsibility.

The following section will discuss in more detail how the defense budget process works and how the four Defense Committees interact with it to oversee defense acquisition programs.

C. THE CONGRESSIONAL BUDGET PROCESS AND DOD ACQUISITION OVERSIGHT

The process through which the President's budget is acted upon, with its authorization and appropriation bills, preceded by a concurrent budget resolution in both congressional Houses which sets budget limits, is called the congressional budget process. The process begins when the President submits his annual budget to Congress in January-February outlining his requirements for funding the Executive Branch for the next fiscal year which begins in October. [Endnote 1, p. 55]

The process occurs as outlined by the Congressional Budget Act of 1974 (P. L. 94-344) and as amended by three later laws: the Balanced Budget and Emergency Deficit Reduction Act of 1985, known as Gramm-Rudman-Hollings (GRH); the Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987 (GRH-2); and the Budget Enforcement Act (BEA) of 1990. [Endnote 3, p. 30]

It is important to note that the BEA divides federal spending into two areas: direct spending, or entitlement programs such as Social Security, and

discretionary spending, of which DOD is the major component. Considerable attention is given to defense activities when Members are looking for ways to reduce the Federal deficit and curtail government spending. [Endnote 1, p. 58]

The Congressional Budget Act of 1974 act, along with its amendments, brought in the "extra" step to the more commonly known "two-step" budget process. The first step to occur is the passage of the Concurrent Budget Resolution (CBR). The CBR operates as an annual concurrent resolution on the budget. Its main purpose is to provide an overview of the entire Federal budget, creating a framework for consideration of subsequent revenue, spending, and other budget-related legislation. The resulting CBR sets aggregate budget and functional policies. Moreover, because a concurrent resolution is not a law, the CBR does not have any statutory effect. Thus, no money can be raised or spent pursuant to it. [Endnote 4, p. 51]

The second step is the authorization process. It results in an authorizations act which is a law passed by Congress that formally establishes the statutory authority for Federal government agencies and programs, including DOD. The act though, does not permit any money to be spent (budget authority). Authorization is a prerequisite step before Congress can appropriate budget authority to agencies such as DOD. [Endnote 5, p. 11]

The third step is the appropriations process which creates the budget authority to fund Federal government agencies and programs. It results in an appropriations act which is a law passed by Congress that provides Federal agencies the legal authority to incur obligations. It also gives the Treasury Department authority to make payments for these Federal agencies in their designated purposes. [Endnotes 3, 4: p. 28, p. 125]

1. Concurrent Budget Resolution

The first legislative action that Congress takes on the defense budget is to establish a ceiling on funding for national defense programs in the annual Concurrent Budget Resolution. The budget resolution provides a means for Congress to review overall national budget priorities and to consider program funding in the context of the entire Federal budget, instead of dealing with each budget function in isolation. The House and Senate Budget Committees, created by the Congressional Budget Act of 1974, make aggregate, and not line item (individual) decisions on ceiling caps for budget authority and outlays for the national defense budget function. [Endnote 3, p. 30]

The CBR establishes overall targets for national defense, but it does not say how these funds should be allocated to specific defense programs. Since defense is a major component of discretionary spending, major defense program issues underlying the funding amounts are often discussed in the reports accompanying each budget resolution. Recommendations on priorities within the defense budget are also often discussed in Budget Committee hearings. These recommendations are occasionally mentioned in floor debate on the resolution as some Budget Committee Members take the opportunity to voice their views on how to achieve defense funding targets. Although these views on major defense programs and issues are not binding on any of the Defense Committees, they often influence the final outcome. Actual decisions on defense funding priorities though, are made only in the defense authorization and appropriation acts. [Endnotes 3, 4 : p. 31, p. 53]

Within the law, no authorizations or appropriations can be considered until the budget resolution is passed. In reality, they are, because of the usual delays in passing the resolution, which cause severe time constraints. The practice has been for the authorizing and appropriating committees to begin their work without the budget resolution if necessary. The final budget

resolution is supposed to be passed by April 15. Although the House and Senate often pass the budget resolution separately by April 15, they often do not reach final agreement on it until after the deadline, sometimes months later. [Endnotes 1, 4: pp. 62-63, p. 51]

2. Authorization Process

Authorization legislation has a dual purpose: (1) it is the means by which Congress establishes policy and exercises control of Federal agencies, and (2) it provides the authority under House and Senate rules for Congress to appropriate funds. With this, an authorization act is legislation that both establishes, continues, or modifies an agency or program, and authorizes the enactment of appropriations for that agency or program [Endnote 4, p. 113]. Authorization looks at line items and appropriations account totals, but it does not convey obligational authority to actually spend (outlay) funds [Endnote 1, p. 79]. Out of the authorization process evolves the National Defense Authorization Act of which the Research, Development, Testing, and Evaluation (RDT&E) account and the Procurement account are of most importance to DOD acquisition officials.

Up until 1959, most authorizations were permanent (with no time limit). The only programs authorized annually were manpower end-strengths, military construction, and family housing programs. Since then, more and more defense programs have been subject to annual authorizations, beginning with procurement programs such as for aircraft and missiles and continuing working-capital funds. Today, only military personnel programs are not specifically authorized in the Defense Authorization Act, but personnel issues such as pay raises and end-strengths are authorized in this act. [Endnote 3, p. 32]

There are two main reasons for this trend to annual authorizations. First, an annual authorization act gives Congress frequent opportunities to review an agency's activities and to make changes through law as it deems appropriate. Congress is likely to seek additional control when it lacks confidence in an agency. Second, annual authorizations enhance the influence of authorizing committees in Congress, especially with respect to the amounts subsequently appropriated to affected agencies such as DOD. [Endnote 4, p. 114]

Authorizations represent the exercise by Congress of its legislative power. In the exercise of this legislative power, Congress can place just about any type of provision (other than appropriations or revenue provisions) in authorizing legislation. It can direct what an agency must do or may not do in the performance of its assigned responsibilities. It can give the agency a broad grant of authority or legislate in great detail. There is no uniform structure or format for authorizing legislation. In practice though, virtually all contemporary authorization measures contain one or more provisions authorizing funds to be appropriated for designated purposes. [Endnote 4, p. 113]

This annual authorization process gives the House and Senate, and their legislative committees, regular opportunities to review the programs and performance of Federal agencies such as DOD. The process thus encourages and improves congressional oversight for Congress as instructions in authorization acts can make changes in agency functions and re-direct program policy. Also, the defense authorizing committees now authorize funding at the same line-item level as the defense appropriations committees, thus giving them another "looking glass" in conducting DOD oversight. [Endnote 5, p. 13]

The authorization work for DOD is conducted by the National Security Committee of the House and the Senate Armed Services Committee. They

both hold extensive hearings, but customarily the National Security Committee spends more time on the details. The defense budget areas are dispersed among the subcommittees of each full defense authorizing committee where the defense request (bill) is reviewed from the aggregate to the minutiae. These actions not only involve hearings, but also briefings and testimony from various DOD officials who are directly or indirectly connected to a military acquisition program.

The subcommittees "mark-up" or review the bill line-by-line agreeing, deleting, or making changes and then the same is done by the full committees [Endnote 1, p. 75]. Following mark-up, each House begins floor action on its respective bill, with amendments offered and voted on followed by floor votes on approving the amended bill. Differences between the House and Senate versions of the bill are resolved in Conference Committee. The revised version produced by this committee is returned to each House floor for final votes. When the final version is signed by the President, DOD has its annual authorization. [Endnotes 3, 1: p. 33, p. 83]

3. Appropriations Process

The third major step in the defense budget process is the appropriations process. Appropriations provide budget authority which authorizes Federal agencies to obligate funds.

The power of appropriation derives from the Constitution which provides that "No money shall be drawn from the treasury but in consequence of appropriations made by law." The power to appropriate is strictly a legislative power; it functions as a limitation on the executive branch. An agency may not spend more than the amount appropriated to it, and it may use available funds only for the purposes and according to the conditions provided by Congress. In recent times, appropriations also have

been viewed as mandates that the funds be used to carry out the activities intended by Congress. [Endnote 4, p. 125]

The Constitution does not require annual appropriations, but since the First Congress the practice has been to make appropriations for a single fiscal year. Appropriations must be used (obligated) in the fiscal year for which they were provided, unless the law provides that they shall be available for a longer period of time. All provisions in an appropriations act, such as limitations in the use of funds, expire at the end of the fiscal year, unless the language of the act extends their period of effectiveness. [Endnote 4, p. 125]

Once legislative authority has been established for defense programs, the House and Senate Appropriations Committees review defense and other programs. Traditionally, the HAC plays an almost adversarial role within the Congress, seeing the authorizing committees (such as defense) primarily as advocates for their respective agency funding requests. The HAC is the "guardian of the purse" and pays close attention to details, new programs, and program increases. The SAC looks at the process as one of ensuring that the "lower house" does not "give away the store." [Endnote 1, p. 86]

The National Security Subcommittee of the HAC and the Defense Subcommittee of the SAC both hold hearings and listen to statements from key DOD officials such as the Secretary of Defense and the Chairman of the Joint Chiefs of Staff. These subcommittees review the President's defense budget request and then mark-up defense appropriations legislation before full committee mark-up. Floor action and conference committees then proceed in the same manner as with the authorization acts. These actions result in the Department of Defense Appropriations Act where funds appropriated for DOD programs and any limitations or special requirements for fund use are spelled out. [Endnote 3, p. 34]

Congress does not formally specify in the language of the appropriation act itself the levels of funding for every single item in the defense budget.

Most appropriations are for lump sums such as for aircraft procurement; the specific item such as an F-18 aircraft is not individually listed. Funding for specific line items can be found in committee reports on the defense appropriations acts. [Endnote 3, pp. 35-36]

As for all other Federal agencies, the DOD Appropriations Act also legislates annual appropriations for virtually all defense activities and programs. The budget justification process for acquisition programs thus becomes a continuous and arduous task. DOD acquisition officials are challenged to know their particular programs to an excruciating level of detail. These officials know that Congress has several means of oversight through the authorizations and appropriations process to probe and investigate any hint of cost, schedule, and performance problems. Again, DOD must work with the Defense Committees in this balancing of micro-management versus reasonable direction from Congress.

This chapter has given an overview of congressional defense oversight and discussed the four main congressional committees which have direct oversight responsibility for defense and how the defense budget process operates. DOD acquisition programs such as MILSTAR must pass through this main gateway annually in order to progress through the five military acquisition phases. Successfully completing these phases culminates in the production, deployment, and operation of a DOD major acquisition item. The following chapters will particularly discuss the congressional budget oversight that has occurred in the MILSTAR program since its fiscal beginning in 1982 to its current budgetary status in FY 95.

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IV. CONGRESSIONAL BUDGETARY OVERSIGHT OF THE MILSTAR PROGRAM DURING THE COLD WAR YEARS (FYs 1982-1989)

A. INTRODUCTION

The inauguration of President Ronald Reagan in 1981 brought in a new administration with a distinctly different view on how to manage and operate the Department of Defense. The framework for this new thinking for our military forces was that the Cold War with the Soviet Union was still at its zenith. President Reagan had labeled the Soviet Union an "evil empire," and thus began the largest peacetime military build-up in our nation's history. [Endnote 1, p. 140]

Out of this build-up evolved the Strategic Modernization Program in the fall of 1981. This modernization program was composed of five elements, of which improvements in communications and control systems were considered the element with the highest national priority. With the ever-present threat of a nuclear war with the Soviet Union, the emphasis on communications led to the development of the MILSTAR mission and program. [Endnote 2, p. 3]

MILSTAR was designed to provide LDR communications for strategic and tactical military forces, primarily during a nuclear conflict. The highest priority users were expected to be strategic and nonstrategic nuclear forces, with tactical ground, naval, and air forces having a lower priority. Its original design included many features intended to allow the system to survive and operate in a nuclear war. [Endnote 3, Section V]

The U. S. Air Force was designated the lead service for this joint acquisition program among the Army, Navy, and Air Force and officially initiated the program in November, 1981. Specific funding for MILSTAR would be provided through the Air Force's RDT&E budget line in the DOD

budget. As stated previously in this thesis, resources for MILSTAR's three segments would be divided by funding the terminal segment under the Air Force Satellite Communications System program, while the mission control and space (MILSTAR satellite) segments would be funded in the MILSTAR program budget line (Program Element #33603F) [Endnote 2, p. 4]. This and the following chapter will address congressional budgetary oversight of MILSTAR by focusing on this main MILSTAR program budget line.

Due to the program's initial security classification and subsequent protection of certain funding information, the author will focus the research of the MILSTAR program through examination of congressional language and budgetary funding amounts that are available from authorization and appropriation acts and from DOD Comptroller cost data. The author will glean the congressional attitude toward this high-risk military acquisition program through this budgetary oversight.

This focus will examine the program's fiscal life through the DOD authorization and appropriation process for budget actions taken by the four Defense Committees. This will provide insight into how and why Congress, through oversight of the defense budget process, impacted and significantly altered the MILSTAR program.

B. MILSTAR PROGRAM FUNDING, FISCAL YEARS 1982 - 1989

The MILSTAR program had its official fiscal start in FY 1982, with \$16 million immersed in the Air Force's RDT&E budget through the Advanced Communication System program and \$32 million with the Air Force Satellite Communications System program [Endnote 2, p. 4]. Language in the Senate's version of the FY 1982 Defense Authorization Act and in conference with the House supported the development of a new architecture, multi-mission satellite intended to augment and/or replace key communications functions

in the later part of the 1980's. This new satellite's funding would be part of the President's objectives for improving the strategic command, control, and communications program of the defense modernization program. The MILSTAR program was not specifically listed in the DOD budget until FY 1983. [Endnotes 4, 5: p. 107, p. 83]

1. A Fast Start, FY 1983 Funding

In this the first full year of the MILSTAR program, it was advertised by DOD and understood by Congress as a satellite communications system that was survivable in a nuclear environment and having jam-resistant communications using the EHF frequency spectrum. These capabilities, along with MILSTAR's proposed role of providing critical strategic communications, gave sufficient justification for Congress to add more funds to this program from the original DOD request. [Endnote 6, p. 98]

The FY 1983 DOD request for MILSTAR, through the RDT&E budget of the Air Force, was for \$79.784 million. The House Armed Services Committee did not make any changes to the DOD request in its mark-up of the authorization bill. The Senate Armed Services Committee (SASC) though, recommended the addition of \$50 million due to the DOD accelerating the Initial Operational Capability (IOC) of the MILSTAR system to 1987. Congressional testimony had indicated that, in the final budget process, the full amount of funding needed in FY 1983 to permit attainment of the earlier IOC was inadvertently not provided. The funding shortfall amounted to \$50 million and the SASC added the full shortfall amount to eliminate it and to also help the program meet the earlier IOC date. The importance of the program was made clear as a request that MILSTAR be afforded a Presidentially-conferred procurement priority was granted by

President Reagan in 1983 as he designated MILSTAR a program of highest national priority. [Endnotes 6, 7: p. 98, p. 5]

In conference deliberations between the House and Senate Armed Services Committees, \$38 million was agreed upon to add to the original DOD request. Therefore, a total of \$117.784 million was authorized for research and development of the MILSTAR program. Moreover, the Conference Committee emphasized the importance of MILSTAR meeting its planned IOC date and the conferees expected that DOD would take appropriate steps in future fiscal years to ensure that this high priority program would be sufficiently funded to meet the planned IOC date. [Endnote 8, p. 129]

The House Appropriations Committee (HAC) concurred with the MILSTAR funding amount as was written in the authorizing legislation. This committee also expressed the same sentiments as the authorizing committees that DOD would ensure proper funding in order for MILSTAR to meet the earlier IOC date. The Senate Appropriations Committee (SAC) recommended an addition of only \$10 million [Endnote 10], as language in its defense appropriations bill stated that the committee was not inclined to recommend any additional funding without a budget amendment, but would consider a reprogramming or supplemental budget request accompanied with adequate justification [Endnote 11, p. 143]. In conference, the appropriations committees agreed on the additional \$38 million as authorized in conference and as supported by the HAC. MILSTAR thus officially began its research and development with \$117.784 million and on strong footing for continued congressional funding support for future fiscal years [Endnote 12, p. 157].

Table 1
FY 1983 MILSTAR Funding
(Dollars in Thousands)

DOD REQ	HASC CHG	SASC CHG	CONF COMM	FINAL AUTH.	HAC FL. CHG	SAC FL. CHG	CONF COMM	FINAL APPROP
79,784	0	+50,000	+38,000	117,784	+38,000	+10,000	+38,000	117,784

(Endnotes 8,9,10,11,12)

2. FYs 1984-1989 Funding

a. A Period of Growth, FYs 1984-1986 Funding

For Fiscal Year 1984, only two of the DOD authorization and appropriation bills produced by the four Defense Committees address the MILSTAR program specifically. The Omnibus Defense Act for 1984, written by the SASC, does not list MILSTAR individually in its Program Element list for Air Force RDT&E programs, but it does discuss MILSTAR funding.

The Reagan administration requested \$149.9 million for research and development for MILSTAR. The SASC indicated that it continued to strongly support the MILSTAR program and it applauded the DOD for slowing the development pace so as to minimize the risk and reduce the concurrency involved in the previous MILSTAR development plan. The SASC though, did warn DOD to resist the temptation to make additional slips in the IOC date other than for sound program management. The Committee recommended authorization of the full \$149.9 million request for MILSTAR research and development for FY 1984. [Endnote 13, pp. 164-165]

The only committee in the House to address MILSTAR specifically through DOD bills was the HAC. Although it did not specifically

list MILSTAR funding in its appropriations for Air Force RDT&E programs, this committee did express concerns that the services were developing their own MILSTAR communication terminals and that interoperability would not be achieved as needed. The HAC directed the Secretary of Defense and each of the Service Secretaries to carefully monitor the separate development efforts and take whatever steps necessary to ensure that the MILSTAR system was interoperable "end-to-end." [Endnote 14, p. 241]

Although the exact amount authorized and appropriated to MILSTAR for FY 1984 cannot be determined through stated DOD bills, MILSTAR system costs are listed as \$149.908 million for FY 1984 in the U. S. Weapon Systems Costs, 1983 manual [Endnote 15, p. A-10]. This amount corresponds to the authorized amount from the SASC.

Congress exercised its oversight authority in 1984, as the SASC noted that there had been a program schedule slippage and the HAC addressed the potential of service communication interoperability problems. Congress showed itself to be "focusing" its congressional oversight microscope more as typical military acquisition program problems appeared in MILSTAR. Even with these concerns, the MILSTAR program in this year had strong congressional funding support.

That support continued in FY 1985. The Administration requested an overall total of \$466 million for MILSTAR, of which \$325 million was specified for the satellite and mission control segments. Only the SASC addressed MILSTAR authorizations and its defense authorization bill strongly endorsed MILSTAR and recommended the full requested amount. The program is not addressed specifically by the HASC or in Conference Committee with the Senate. [Endnote 16, pp. 166-167]

MILSTAR support is again strongly shown in appropriation bills as the House, Senate, and in Conference Committee all appropriated the requested \$325 million. In this year though, the first congressional concerns

regarding MILSTAR's costs are revealed. The Senate Appropriations Committee addressed its concerns, along with the GAO, that the total cost of MILSTAR had not been reported to Congress. Moreover, directives were given for DOD to deliver the results to the committee of an independent cost analysis of the satellite and mission control segment, and DOD's budget plans for the total program. The appropriation committees increased their oversight as MILSTAR's non-disclosure of total costs encouraged further investigation of the MILSTAR program. [Endnotes 17, 18, 19: p. 243, p. 193, 196, p. 373]

Strong congressional support continued into FY 1986 as the Administration requested \$346 million for MILSTAR R&D, along with \$132 million for R&D of MILSTAR terminals. The authorizing committees only specifically listed MILSTAR terminals and did not list the satellite and mission control segment in its RDT&E authorizations. The SASC continued its support as it recommended the full funding for MILSTAR. [Endnote 20, pp. 159-160]

The House and Senate Appropriations Committees separately and in conference appropriated the full requested amount of \$345.946 million for MILSTAR. These appropriation bills did not discuss MILSTAR's main budget category and thus did not give a complete indication of the level of congressional oversight for FY 1986. MILSTAR was viewed as a program that had strong congressional support, given that the military threat of the Soviet Union was still very evident. [Endnotes 21, 22, 23: p. 340, p. 322, p. 254]

These three fiscal years marked a time of growth and strong congressional support for MILSTAR, as appropriation amounts gradually increased during this time. Despite these positive indicators, the four Defense Committees at varying times exercised their oversight responsibilities by expressing their concerns over possible problems in interoperability among the services and especially concerns about not having full disclosure of total

MILSTAR costs. This cost concern was amplified in subsequent fiscal years as cost, schedule, and performance problems appeared and consequently induced Congress and the Defense Committees to significantly elevate their oversight of the MILSTAR program.

The following table shows costs for 1984 and appropriated funding for FYs 1985 and 1986 for the main MILSTAR budget category.

Table 2

1984	1985	1986
\$149.9 M	\$325.042 M	\$345.946 M

(Endnotes 15, 19, 23)

b. Peak and Decline, FYs 1987-1989 Funding

Fiscal Year 1987 marked the first year where the full DOD requested amount for MILSTAR was reduced. The Administration requested \$493.357 million for the main MILSTAR budget category. The House Armed Services Committee was the first to make a cut as it decreased the requested amount by \$16.1 million to \$477.257 million. The House authorization bill did not discuss its rationale for this reduction. [Endnote 24, p. 127]

The Senate Armed Services Committee addressed MILSTAR in its authorization bill, as budgetary considerations were the reason given for a \$25 million reduction in DOD's request. It also stated in the SASC's bill that these adjustments to MILSTAR due to the funding cut should not affect the scheduled launch date for the first satellite. Congress was thus "tightening the noose" on DOD to keep its schedule on track despite funding cuts. [Endnote 25, p. 159, 172]

In conference, the House and Senate Armed Services Committees agreed on a \$25 million reduction, authorizing \$468.357 million for MILSTAR. Strong congressional support was still evident, but MILSTAR's increasing budget showed its strain on the DOD budget. Despite the program's "heroic" entrance, funding request levels were reduced. [Endnote 26, p. 428]

When the DOD MILSTAR request went to the Defense Subcommittee of the HAC, this subcommittee recommended the full requested amount for MILSTAR's main budget. The Defense Subcommittee of the SAC though, agreed with the SASC authorization and appropriated \$468.357 million for MILSTAR. The Appropriations Conference Committee adopted the Senate's version and appropriated the same amount. None of the appropriation bills discussed a rationale for MILSTAR funding cuts. This fiscal year marked the funding highlight for the MILSTAR program during the Cold War years; with the Soviet Union gradually deteriorating, this would later have corresponding effects on the MILSTAR program. [Endnotes 27, 28: p. 326, p. 571]

In Fiscal Year 1988, none of the authorization or appropriation bills discussed the MILSTAR main budget category, nor do they list any funding amounts. However, during this time, world events were changing and the Cold War with the Soviet Union was gradually "thawing." Congressional leaders, who wanted to divert defense funds to domestic categories, saw the national security changes as an opportunity to "raid" questionable military programs whose Cold War purpose was eroding.

The U. S. Weapons Systems Costs Manual of 1988 lists MILSTAR's main budget category as costing \$384.779 million for FY 1988. This reduced amount from FY 1987 (17-18%), showed that congressional concerns may have been more apparent as cost overruns and schedule slippages may have diminished congressional support. The planned launch

date for the first satellite was for 1987 and this did not occur. This unmet goal more than likely significantly increased congressional oversight for MILSTAR even as domestic concerns were taking on more prominence in the congressional agenda. [Endnote 29, p. A-8]

Former Secretary of Defense Richard Cheney may have best ascertained MILSTAR's status during the late 1980's when he stated in 1989 that past funding cuts by the DOD for MILSTAR were the result of a constrained budget environment, and not a lack of support from DOD [Endnote 30]. By DOD cutting into the MILSTAR program budget and also continually emphasizing its military need, conflicting signals were sent to Congress as more "dovish" congressional Members saw DOD's position as a cause to scrutinize MILSTAR even more.

The authorization and appropriation bills for FY 1989 are also silent as in FY 1988. None of these bills discussed the MILSTAR program specifically. The House Armed Services Committees did list the main funding category for MILSTAR, but it did not indicate any funding amounts. This is also the case for the Conference Committee for the House and Senate as MILSTAR showed no funding authorized. [Endnotes 31, 32: p. 152, p. 329]

The Appropriations Bills for FY 1989 also did not discuss MILSTAR or list the main budget category. However, the U. S. Weapons Systems Costs Manual for 1990 did list the main MILSTAR budget category as costing \$272.778 million for FY 1989 [Endnote 33, p. B-16]. This is a significant drop from the previous fiscal year.

In 1989, *Glasnost* and *Perestroika* reforms were making sweeping changes throughout Europe, as former Soviet Premier Mikhail Gorbachev was credited for ending the Cold War in 1989. The Berlin Wall was leveled and the national security of the U. S. was going through a major re-defining. More and more the stated purpose of MILSTAR to sustain communications during a nuclear war with the Soviets was seen as unnecessary, and with its

high costs and schedule slippages, the climate became ripe for MILSTAR to be restructured or even terminated.

Table 3
MILSTAR Funding, FYs 1987-1989

1987	1988	1989
\$468.357 M (Appro.)	\$384.779 M (Cost)	\$272.778 M (Cost)

[Endnotes 28,29,33]

The following charts (Figures 1 & 2) illustrate and show a contrasting of funding levels in current year dollars for MILSTAR and total DOD RDT&E resources for FYs 1982-1989. The MILSTAR chart shows a rise and fall of funding, as early congressional support is evident through FY 1987. Congressional skepticism and concern are shown in FYs 1988 and 1989 as funds for MILSTAR take a significant downturn in response to this congressional oversight. This is in contrast to the RDT&E amounts over the same period, as there is a gradual increase of funding throughout these years. This gives an indication of the problems that the MILSTAR program was facing as cost overruns, schedule slippages, and a questionable mission purpose all contributed to the marked reduction in the program's funding, despite significant congressional support for defense RDT&E programs in general.

The next chapter will focus on the fiscal years 1990-1995 and examine how the MILSTAR program became an item of significant congressional interest as congressional oversight brought to view the mismatch of the world's security environment with the MILSTAR mission. This chapter will also examine DOD's response to this congressional oversight and give the current status for the MILSTAR program through the FY 1995 authorization and appropriations process.

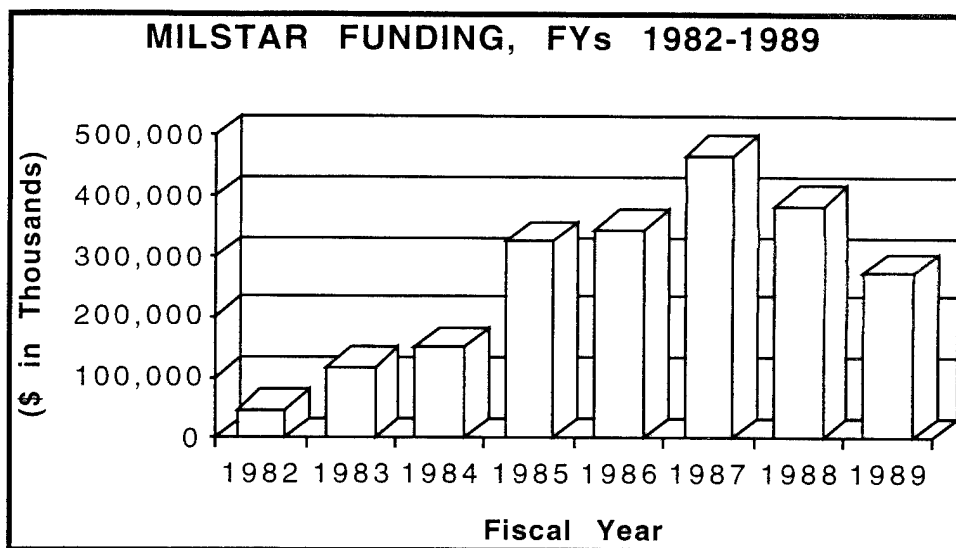


Figure 1

MILSTAR Funding, FYs 1982-1989

(Endnotes 2, 15, 19, 23, 28, 29, 33)

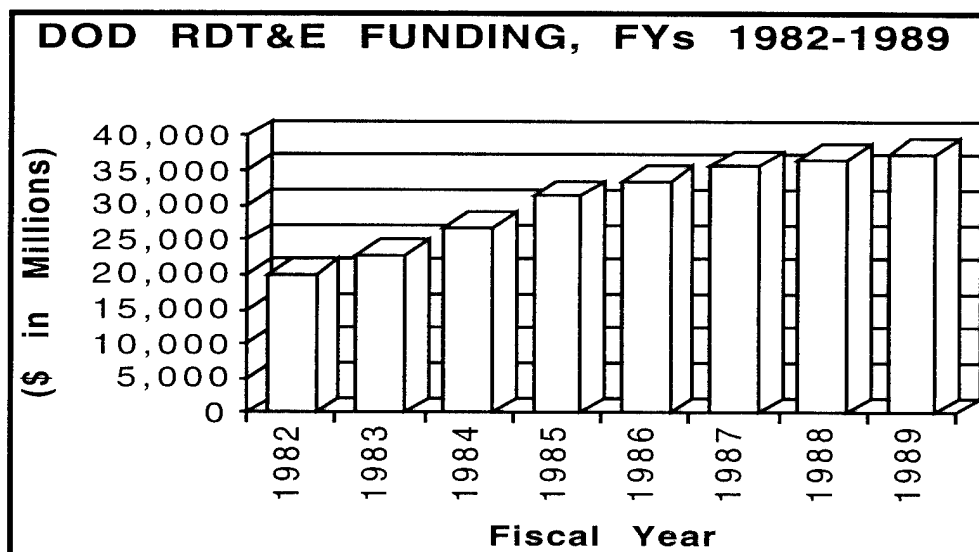


Figure 2

DOD RDT&E Funding, FYs 1982-1989

(Endnote 34, p. 80)

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V. CONGRESSIONAL BUDGETARY OVERSIGHT OF MILSTAR - PROGRAM RESTRUCTURING AND REVITALIZATION (FYs 1990-1995)

In FYs 1990-1991, the Defense Committees exercised a wide range of congressional oversight powers as MILSTAR's acquisition problems of cost, schedule, and performance came to the forefront. During these fiscal years, major program changes, along with congressional directions and restrictions, forced DOD to assess and re-evaluate MILSTAR's roles, requirements, and mission. Through FYs 1992-1995, MILSTAR gained a new life and began to once again give a favorable impression to Congress for its military utility and effectiveness. The following sections will examine this critical six-year period of MILSTAR and focus on how Congress, through oversight of the DOD budget, altered and significantly re-shaped the MILSTAR program.

A. RESTRUCTURING OF THE MILSTAR PROGRAM, FYs 1990-1991

1. FY 1990 Funding

FY 1990 marked the first year that congressional deliberations on MILSTAR were on center stage for oversight of military acquisition programs. It was the first year of MILSTAR where DOD felt the true impact of this congressional oversight as the program came under intense scrutiny. As MILSTAR's mission became more "blurry" with each new story of communism's demise, Members of Congress with agendas of less defense spending began to see the MILSTAR program as a prime target for termination. Funding for MILSTAR in FY 1990 reflected this skepticism.

The House Armed Services Committee did not address MILSTAR in its version of the National Defense Authorization Act, nor did it specify

MILSTAR funding. The Senate Armed Services Committee did address the program in its authorization and expressed its concern over the Air Force not meeting requirements for MILSTAR on-orbit satellites and spares due to "funding limits." This discrepancy was in contrast to the President's National Space Program Report which asserted that MILSTAR would be the *only* means of meeting the Air Force commitment to the strategic force management task. DOD leaders had argued in repeated testimony and budget justifications to Congress that MILSTAR was critical to strategic and conventional operations. The SASC thus did not accept "funding limits" as a rationale for DOD not adhering to the acknowledged MILSTAR requirements. This weak rationale by DOD further intensified Congress' MILSTAR oversight. [Endnote 1, p. 73]

Due in part to these conflicting approaches to MILSTAR program management from DOD, the SASC directed the Secretary of Defense to provide a report to the Defense Committees in the Senate and the House. This report was to address the probabilities, assumptions, and methodology that DOD would use in determining the likelihood that the planned MILSTAR constellation would provide the required area coverage for critical communications. Required annual funding was also to be included in this report. Neither the bill nor the report accompanying it that were reported out by the SASC for FY 1990 showed any MILSTAR funding authorized. [Endnote 1, p. 73]

In conference, the authorizing committees cut \$88.2 million from the MILSTAR budget request, which was not revealed. No rationale was given in this conference report to explain this funding cut. This mark-down was not too surprising, given that major schedule slippages, significant cost overruns, and an increasingly antiquated mission became the key identifiers of the MILSTAR program. [Endnote 2, p. 498]

The House Appropriations Committee in its defense appropriations bill did not address MILSTAR's primary budget category. It did however, provide the first real signs of MILSTAR's potential termination, as the full committee recommended program termination after the launch of the third satellite. Moreover, former Secretary of Defense Richard B. Cheney had to defend MILSTAR to the House Defense Appropriations Subcommittee when it recommended a cut of \$632 million from the program. Secretary Cheney stated that "termination now, or after three satellites, would severely impact strategic and tactical communications capabilities of the United States well into the future" [Endnote 6]. Another indication of MILSTAR's troubles was evident in that approximately \$99 million was reduced by the HAC from the Air Force's request of \$103.386 million for MILSTAR terminals. [Endnotes 3, 5: p. 168, p. 60]

The Senate Appropriations Committee recommended the full requested amount for MILSTAR terminals; however, classified language in the Senate's version directed certain required program changes to occur if MILSTAR were to continue. [Endnotes 4, 5: p. 217, p. 60]

The Conference Report for the Appropriations Committee most completely summarized congressional oversight of MILSTAR for FY 1990. House and Senate reports, along with accompanying classified annexes, characterized MILSTAR as a program plagued by poor definition of requirements, benign neglect by senior government officials, overly ambitious technical challenges, inadequate planning, contractor cost overruns, and repeated schedule slippages. MILSTAR though, would not be terminated. [Endnote 5, p. 59]

The Conference Committee explained in its report that if the mission of MILSTAR were less critical to the surviving and enduring communications architecture necessary for support of U. S. national security, there would have been less support for program continuation. The

Committee expressed its view that if MILSTAR were terminated, the expense to begin development of a new system would exceed the costs of salvaging and restructuring MILSTAR. [Endnote 5, p. 60]

The conferees reluctantly declined termination of MILSTAR after the third satellite, but it was agreed to significantly restructure the program by eliminating \$226.346 million from the FY 1990 DOD request. The Committee prohibited the acquisition of satellite number four and long-lead items for satellite number five, delayed launch of the first satellite by at least a year, denied all funds for Army terminals, and deleted half of the resources for Air Force terminals. In addition, a classified annex to the Committee's report gave definitive and non-negotiable program direction for MILSTAR, proscribing work beyond the third satellite without complete compliance to these directions. [Endnote 5, p. 60]

The FY 1990 budget request for MILSTAR is not listed in any of the authorization or appropriation acts. However, the FY 1991 National Defense Authorization Act from the HASC reveals the previous authorized amount for MILSTAR in FY 1990 as \$400 million [Endnote 7, p. 163]. Program directions from the Congress may have been followed by DOD, as MILSTAR costs for FY 1990 in the U. S. Weapons Systems Costs manual also reflected \$400 million [Endnote 8, p. B-16]. Congressional Members appeared to have been satisfied by the program's gradual restructuring and thus were convinced to retain the program.

The congressional oversight of MILSTAR for FY 1990, keen and scrutinizing as it was, became even more critical in FY 1991, as the MILSTAR program went on the "chopping block." The next section will discuss FY 1991, as this was the linchpin year in which congressional oversight of MILSTAR would either terminate the program or make sweeping changes to restructure it.

2. FY 1991 Funding

With the short breath of life breathed into MILSTAR in FY 1990, DOD increased its MILSTAR budget request to \$744.164 million in FY 1991 [Endnote 7, p. 163]. This optimistic jump from the previous fiscal year would be overshadowed by the vigorous congressional oversight from the Defense Committees. This amount was totally erased, as recommendations for MILSTAR's termination echoed in the halls of Congress again.

Polar differences about MILSTAR were shown this fiscal year during the authorization and appropriations process. The House Armed Services Committee supported the program, as it recognized the importance of MILSTAR and recommended the full requested amount. The Committee had noticed that 70 per cent of the system's capacity would be devoted to tactical uses. The degree of tactical application of MILSTAR's capabilities would prove to be a key factor in congressional debate on the program's future. Rationale for the HASC's support relied in part on DOD's position that MILSTAR was its highest priority communications program and that DOD leaders had repeatedly validated MILSTAR's requirements since its inception in 1981. [Endnote 7, pp. 171-172]

The Senate Armed Services Committee however, stated a totally opposite view and discussed its reasoning in detail. It recommended termination of the program and thus denied all funds requested for MILSTAR. The SASC's reasoning was that in the context of a severe budget squeeze and the declining threat of a nuclear war, DOD had not justified the extraordinary expense of MILSTAR's over-designed system for a protracted strategic nuclear warfighting mission. Moreover, the committee questioned MILSTAR's utility for tactical applications and repeated concern regarding the program's continuing delays and cost increases. [Endnote 9, p. 110]

The decision to terminate MILSTAR was also based on the committee's view that current and future U. S. command, control, and communications (C³) capabilities, were sufficiently robust and redundant to allow MILSTAR's cancellation and subsequent research into lower-cost alternatives. [Endnote 9, p. 110]

Certain fundamental questions of the SASC were also not satisfactorily answered by DOD. These questions were related to MILSTAR's requirements, affordability, and operational utility, and its priority in relation to other defense needs in the restricted budget and declining threat environments. Some of these questions were: Is \$40 billion in investment in new and improved C³ systems since 1980 insufficient to provide an assured means of retaliation?; What are the added features of MILSTAR that would justify the expenditure of an additional \$35-40 billion for this system alone?; Is MILSTAR an appropriate and cost-effective communications system for our tactical conventional forces?, and Does MILSTAR provide useful communication capabilities to actual fighting forces such as tactical fighter squadrons and ground maneuver units? These questions were very tough, but very logical in their approach. [Endnote 9, p. 110]

The committee could not discuss certain MILSTAR costs, as these were still classified. It did note that MILSTAR's annual operating expenses, after a ten-satellite constellation was established, would approach or exceed \$1 billion. Based on this information, it was expected that MILSTAR's 20-year life cycle costs would be in the range of \$35-40 billion. The committee was also aware that the Air Force, in evaluating MILSTAR against other priorities, had recommended to Secretary of Defense Cheney to terminate MILSTAR. Secretary Cheney did not accept the recommendation, but this further weakened DOD's position in testimony and briefings for program justification to Congress. [Endnote 9, p. 111]

MILSTAR's nuclear warfighting mission was in serious doubt as the SASC reasoned with former President Reagan that a nuclear war could not be won and it should not be fought. The question for the committee then was: what is the justification for spending \$35-40 billion for extended nuclear warfighting? With MILSTAR nearly five years behind schedule, several billions over cost, and initial and full operational capability years away, there seemed to be no justifiable reason for MILSTAR's continuation. The committee also justified its recommendation by citing the Joint Chiefs of Staff 1990 Joint Military Assessment, which stated that, "the risk of nuclear deterrence failing is assessed to be low and at this moment to be decreasing." [Endnote 9, pp. 111-112]

The committee did discuss tactical applications using EHF satellites, but with MILSTAR built for a nuclear environment, it did not seem applicable for conventional use. The SASC's overriding rationale for program termination was that there were higher defense priorities than MILSTAR in the constrained budget environment [Endnote 9, p. 110]. The committee concluded its discussion by authorizing \$20 million for examination of an alternative program or programs to MILSTAR. [Endnote 9, p. 114]

The views of the HASC and the SASC were meshed together as the Conference Committee for Authorizations directed the Secretary of Defense to terminate MILSTAR altogether, or develop a plan for a system in place of the current MILSTAR system. This new system could either be a restructured MILSTAR or an alternative advanced satellite communications system. These directions had three objectives: (1) substantially reducing the cost of the program compared to the present cost; (2) increasing the utility of the program for tactical forces; and (3) eliminating unnecessary capabilities for protracted nuclear warfighting missions and operations. It also directed that no more than \$600 million could be obligated or expended for MILSTAR or

its proposed alternative. The final authorization was \$500 million for an alternative system to the current MILSTAR system. [Endnote 10, p. 28, 524]

The House Appropriations Committee did not discuss MILSTAR specifically, but it denied the full requested amount for MILSTAR and did not appropriate any funds for an alternative system [Endnote 11, p. 219]. The Senate Appropriations Committee also denied the full requested amount, but it agreed with the SASC and appropriated \$20 million for a MILSTAR alternative [Endnote 12, p. 221].

The Conference Committee for Appropriations however, concluded that a valid requirement existed for a surviving and robust EHF communications system to support varied national security functions. The committee also stated that while the MILSTAR program had suffered from unacceptable management and cost problems, it believed that the program had achieved significant improvements in managerial direction and cost containment. Moreover, the committee stated termination and development of a new system would eventually cost more than restructuring the MILSTAR program itself. [Endnote 13, p. 97]

The Conference Committee concluded by limiting the MILSTAR constellation to no more than six satellites and directing that this constellation should emphasize communications connectivity for tactical contingencies. MILSTAR terminals were also directed to accentuate tactical uses. General guidance was given that when possible, every effort should be made to ensure that MILSTAR would meet strategic nuclear connectivity requirements. The committee's final direction was that starting in FY 1992, the full cost of the MILSTAR system should be included as an unclassified part of the DOD budget. [Endnote 13, p. 97]

This congressional oversight significantly changed the MILSTAR mission. Given these options, DOD chose to restructure the program. It lowered costs by reducing the constellation to six satellites as directed, reduced

the quantity of other ground-based equipment, and eliminated several system nuclear survivability features. To provide greater utility to tactical forces, DOD added a medium-data rate capability for the fourth satellite and beyond [Endnote 14, p. 6].

The final appropriated amount for FY 1991 is not specifically listed. However, the U. S. Weapons Costs manual for 1990 does list MILSTAR's main category cost as \$744.164 million, the same as the requested amount [Endnote 8, p. B-16]. In this changeover, it appears that MILSTAR had gained credibility and was allowed to use the full requested amount to restructure the program.

Table 4
MILSTAR Funding, FYs 1990-1991

1990	1991
\$400 M (Cost)	\$744.164 M (Cost)

(Endnote 8)

B. REVITALIZATION OF THE MILSTAR PROGRAM, FYs 1992-1995

1. FYs 1992-1994 Funding

a. A New MILSTAR, FY 1992 Funding

DOD restructured and thus revitalized the MILSTAR program in accordance with congressional direction. This restructuring reduced costs, increased the use to tactical users, and eliminated enduring nuclear warfighting capabilities. The House Armed Services Committee stated in its version of the defense authorization act that this new restructured program would reduce life-cycle costs by 25 per cent [Endnote 15, pp. 154-155].

This new confidence in DOD by Congress more than likely contributed to the largest MILSTAR request yet. DOD requested \$901.263 million in its FY 1992 budget. The HASC authorized the full amount as MILSTAR's revised mission for more tactical applications satisfied congressional defense leaders of its new and effective mission. [Endnote 15, p. 148]

The Senate Armed Services Committee indicated in its bill that it was pleased by the progress that DOD had made in restructuring MILSTAR. This committee also approved the full requested amount [Endnote 17, p. 450]. Congressional oversight had not necessarily been relaxed, as the SASC gave instructions that it should be informed as soon as DOD decided how it would allocate MDR capacity to satellites four and beyond, and in what orbits satellites two and three would be placed. A Selected Acquisition Report (SAR) update was required of DOD to show the changes that would be made to MILSTAR as a result of the restructuring. MILSTAR had new credibility, but Congress was not going to lessen its attention on a program known for its volatility. The Conference Committee agreed with the House and Senate versions, and also approved the full requested MILSTAR amount [Endnote 16, p. 450].

The renewed confidence in MILSTAR carried over to the appropriations committees as the HAC and the SAC recommended the full requested amount [Endnotes 18, 19: p. 211, p. 312]. This rejuvenation of MILSTAR was also affected by testimony from DOD officials on how MILSTAR could have enhanced U. S. communications capabilities during Operation Desert Storm in 1991. Due to these positive aspects, former congressional opponents of MILSTAR did a complete turn-around and began supporting it. [Endnote 20, pp. 441-442]

The Conference Committee Report on Appropriations did not specifically list MILSTAR funding. However, the 1993 U. S. Weapons

Systems Costs manual lists FY 1992 MILSTAR costs as \$886.146 million [Endnote 21, p. B-17]. The leap in MILSTAR funding showed that Congress had been satisfied by DOD's restructuring and that the expanded scope to include tactical forces proved to be the key capability that convinced congressional Members of MILSTAR's effectiveness for new and different military contingencies.

b. FYs 1993-1994 Funding

These two fiscal years were generally silent on the main funding category for MILSTAR. The House version of the FY 1993 Defense Authorization Act lists the main MILSTAR category, but it showed that there was no DOD request for this budget line. There was a request for approximately \$1.261 billion in a different, but similar budget line for development of Air Force MILSTAR terminals. The Senate version, in its discussion of EHF satellite communications, noted that the \$1.261 billion requested included funds for RDT&E of MILSTAR terminals, along with satellites. It appeared that funds for terminal and satellite development were meshed together under program element #33601F for FY 1993. The House authorized the full amount under this budget line, while the Senate reduced the amount to \$1.240 billion. Congressional oversight was still evident, as the SASC directed the Secretary of Defense to inform the committee prior to any of his final decisions regarding the MILSTAR program. [Endnotes 22, 23: p. 135, p. 117, 121]

The Conference Committee concurred with the Senate version and authorized \$1.240 billion for RDT&E of MILSTAR under this inclusive budget line. This committee exercised its oversight, as it directed the Air Force to select only one contractor to complete procurement of the command post terminal program [Endnote 24, p. 607, 614]. The Conference Committee's

most significant oversight though, was its directive for the Secretary of Defense to develop a comprehensive acquisition strategy aimed at reducing costs and increasing efficiencies for the development, fielding, and operation of DOD space programs. As a result of this directive, the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence approved a further reduction in MILSTAR's planned constellation from six to four satellites [Endnote 14, p. 6].

The House Appropriations Committee approved the full budget request of \$1.261 billion. This amount was also listed under the RDT&E budget line for Air Force terminals [Endnote 25, p. 199]. The Senate Appropriations Committee reduced the requested amount to \$1.195 billion and the Conference Committee settled on \$1.211 billion for appropriation [Endnote 26, p. 134]. There was no discussion of MILSTAR in these latter appropriation bills.

Although it is not clear on exact funding for the main MILSTAR segment, the resources made available to the overall MILSTAR program show strong congressional support. This backing from Congress had its price, as congressional oversight in FY 1993 remained very detailed. However, the program progressed into FY 1994 and maintained strong funding support.

As in FY 1993, DOD requested funds for MILSTAR in FY 1994 under the new terminal development budget line (#33601F). This request was for \$973.162 million. No funds were requested under the main MILSTAR program element #33603F. The House Armed Services Committee authorized this full amount in its authorization bill [Endnote 27, p. 141]. The Senate version did not discuss or list MILSTAR funding, but support for the program was still evident as the SASC discussed its concern that the Ballistic Missile Defense Organization (BMDO) was developing a new EHF communications waveform that might not be compatible with the MILSTAR system. The SASC directed the BMDO to ensure that if this new

waveform was not developed in time for deployment on the first or second MILSTAR MDR satellites (#3&4), then it would be implemented to ensure backward compatibility with existing MILSTAR satellites and terminals [Endnote 28, p. 82]. No SASC changes were revealed on the FY 1994 request, but in conference, the House and Senate deleted \$50 million from the request to authorize \$923.162 million [Endnote 29, p. 76].

The House Appropriations Committee deleted \$100 million from the budget request, but did not discuss the MILSTAR program in detail [Endnote 30, p. 250]. The Senate Appropriations Committee did discuss MILSTAR as it deleted \$22.1 million from the budget request. The SAC directed that no reallocation of MILSTAR funds for the Air Force in FY 1994 could occur without consultation and notification to the Committee [Endnote 31, p. 306]. In conference, the HAC and the SAC deleted \$41.162 million and made a final appropriation of \$932 million [Endnote 32, p. 92]. The following table shows MILSTAR funding under its main budget category and the terminal category where most funding occurred for FYs 1993-1994.

Table 5
MILSTAR Funding, FYs 1992-1994

1992	1993	1994
\$886.146 M (Cost)	\$1.211 B (Inclusive)	\$932 M (Inclusive)

(Endnotes 21, 26, 32)

At this point, MILSTAR was on strong footing, but at the expense of keen congressional oversight. The program still had its congressional opponents, as FY 1995 was marked by MILSTAR again taking a center stage and generating significant congressional interest and debate.

2. Recent MILSTAR Oversight, FY 1995 Funding

DOD requested \$607.248 million for research and development of MILSTAR in FY 1995. The program had been restructured to adapt to the new security environment, but it still retained some important features from its Cold War origin and it relied on the costly Titan IV launch vehicle. These areas renewed the MILSTAR debate as congressional opponents again emphasized MILSTAR's "Cold War" features and high costs in deliberating the program's usefulness. [Endnote 14, p. 5]

The House Armed Services Committee noted in its authorization bill that the advanced EHF satellite (MILSTAR III) had advanced technologies that MILSTARs I & II could not incorporate, and that it could use a less expensive medium launch vehicle. The committee stated its belief that the development of MILSTAR III, which was to be a follow-on to MILSTAR II, should be accelerated so that it could be deployed early in the next decade and thus negate acquisition of MILSTAR satellites 5 and 6. [Endnotes 14, 33: p. 6, p. 116]

The HASC recommended the full requested amount for MILSTAR and also recommended \$35 million for the advanced EHF satellite program. The committee specified that of the \$607.248 million, \$12 million could be used for either long lead funding for MILSTAR II satellites 5 and 6, or to further accelerate the advanced EHF program. Congressional oversight again took the form of a restriction on funds until DOD delivered plans on how these funds would be spent. [Endnote 33, p. 116]

The HASC further exercised oversight as it directed the Secretary of Defense to develop a military communications master plan. The committee was concerned that the military satellite communications structure was fragmented and that DOD was remaining isolated from the advances made by the commercial telecommunications industry. Military communications

authority and responsibility were also questioned as the committee was concerned that a serious gap existed between those agencies who established communications requirements, and those who paid for them. Appropriate interservice funding support for military acquisition programs was seen as a key improvement for DOD to accomplish in managing joint programs. The House authorization bill also prohibited the obligation of \$50 million until DOD submitted the communications master plan to the committee. [Endnote 33, p. 116]

The Senate Armed Services Committee, in its authorization bill, addressed MILSTAR's history and restructuring. The SASC cited the 1993 Bottom-Up Review (BUR) conducted by then Secretary of Defense Les Aspin, which reaffirmed the need for MILSTAR despite its high costs. The BUR concluded that the technologies needed for replacing MILSTAR with a cheaper satellite (MILSTAR III) were not mature enough to accelerate appreciably and that DOD could not wait another ten years for jam-resistant satellite communications. The BUR, however, did advocate this advanced satellite program. This newer and more advanced satellite would replace MILSTAR II by FY 2006. The SASC agreed that the BUR examined the right issues and the committee subsequently accepted the BUR findings. [Endnote 34, pp. 122-123]

The SASC, however, did direct DOD to assess the GAO report that asserted that DOD could accelerate the advanced EHF satellite by at least several years at acceptable risk. This was the same report whose findings the HASC had accepted. These findings stated that DOD could forgo acquisition of the last two MILSTAR satellites and thus save \$2 billion [Endnote 14, p. 7]. This assessment was to be submitted to the congressional defense committees. [Endnote 34, p. 123]

Despite the new possibilities of an advanced satellite system, the SASC expressed its view that MILSTAR's jam-resistant communications were very

important to tactical forces and that no near-term alternative to MILSTAR could provide this capability. The committee further stated that MILSTAR would have been canceled if not for the support of the Chairman of the Joint Chiefs of Staff, the Army, the Navy, and the CINCs. [Endnote 34, p. 123]

Concern for the lead service involved in the MILSTAR acquisition was also raised as the SASC noted that the Air Force had sought to terminate MILSTAR due to its lesser role in Air Force missions. After the restructuring, the Army and Navy became strong MILSTAR supporters as the tactical applications of MILSTAR enhanced these services' communications capabilities. The Air Force sought MILSTAR's termination, even as it continued to argue that it should be the lead service for all space-related acquisition programs. In response to this, the SASC recommended a provision in its bill that would have given management of MILSTAR to the Navy. This issue was discussed in the Conference Report. It was determined that the conferees would withhold judgement, since DOD had this issue under review and was considering making a fundamental change in MILSTAR's management [Endnote 35, p. 626]. The Air Force remained the lead service for MILSTAR's acquisition. [Endnote 34, p. 123]

The SASC concluded its discussion of MILSTAR by addressing satellite communications in general, directing DOD to submit a report on future plans on DOD's use of advanced EHF communications, how satellite communications would affect and incorporate mobile, battlefield users and how DOD would optimize use of satellites and fiber-optic communications. Congressional oversight was not lessening, but the SASC did authorize the full \$607.248 million requested for FY 1995. [Endnotes 34, 35: p. 124, p. 590]

The authorizing conferees approved the full request of \$607.248 million. Section 234 of the authorization act indicates that of the amount authorized, \$20 million was to be available for either advance procurement of MILSTAR satellites five and six, or for the Advanced EHF satellite program.

The Conference Committee also directed that the required satellite communications master plan from DOD discuss projected military satellite communications requirements, alternate and innovative ways of meeting these requirements, and possible financial incentives to ensure that those in the DOD who require communications are involved in the funding of acquiring those communications. [Endnote 35, p. 38]

The House Appropriations Committee agreed with the HASC and appropriated the \$607.248 million. The committee also appropriated \$35 million for the Advanced EHF program. These funds for MILSTAR and the Advanced EHF were transferred to the RDT&E Defense-Wide account, and not provided in the Air Force RDT&E budget line as had been previously done [Endnote 36, pp. 252-253, 260]. The Senate Appropriations Committee did not discuss MILSTAR, but it also appropriated the full \$607.248 million [Endnote 37, p. 299]. Thus the MILSTAR program "sailed" through FY 1995, as the Conference Committee continued MILSTAR's support with the full appropriation for DOD's budget request. [Endnote 38, p. H9645]

MILSTAR's support in Congress increased in FY 1995 even under keen congressional oversight. This oversight was again very detailed. DOD was directed to fully inform Congress of its future satellite communications plans, as the past problems and recent successes of MILSTAR motivated Defense Committee Members to more objectively ascertain military acquisition programs before giving their support. The MILSTAR satellite's new communications applicability for tactical forces was a major factor that convinced congressional Members of the satellite's enhanced effectiveness for future military conflicts. Given the increased concern and awareness of the American people for the care and safety of their service personnel, MILSTAR's new mission convinced Members of Congress to back this significant improvement in our nation's military capabilities. The following

charts (Figures 3&4), depict MILSTAR funding for FYs 1990-1995 in current year dollars, and compare this to the DOD RDT&E budget for the same period.

MILSTAR funding for these fiscal years shows a correlation to DOD RDT&E funding, as MILSTAR's renewed support is part of the overall congressional support that is given DOD-wide for RDT&E programs. This would indicate that a program like MILSTAR has good backing, but funding levels appear to be dependent on the overall trend of support that Congress is giving DOD for programs still in R&D phases.

The next and final chapter will address the impacts that congressional oversight has had on the MILSTAR program, and discuss recommendations for further research on the impacts of congressional oversight on military acquisition programs.

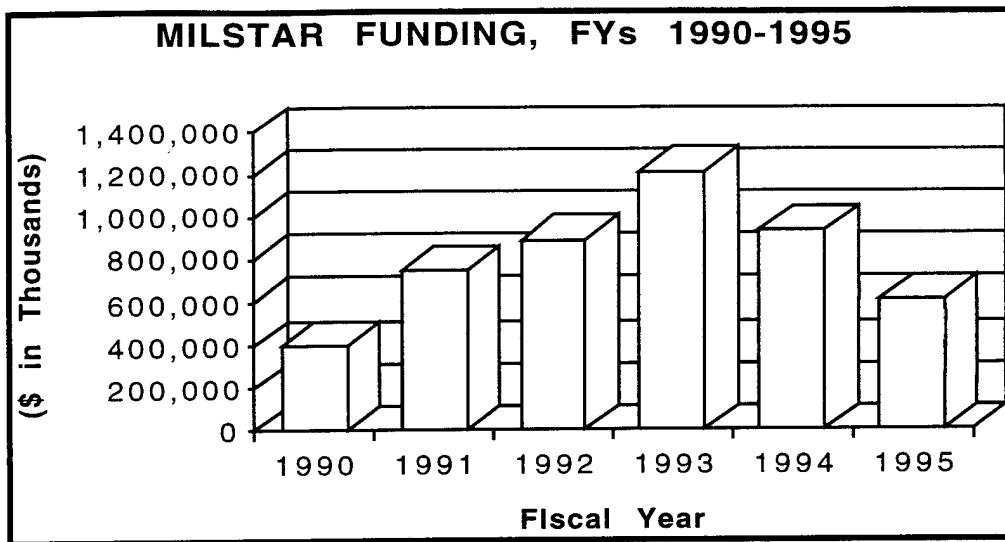


Figure 3
 MILSTAR Funding, FYs 1990-1995
 (Endnotes 8, 21, 26, 32, 38)

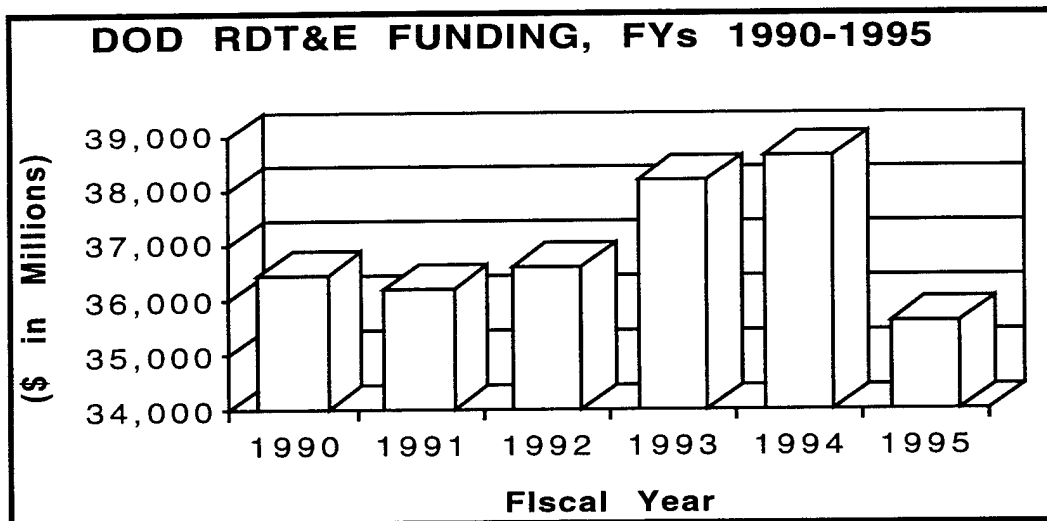


Figure 4
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 (Endnotes 38, 39)

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VI. CONCLUSIONS AND RECOMMENDATIONS

A. THE ROLE OF DEFENSE COMMITTEES

1. Fiscal Years 1982-1989

The early years of MILSTAR, (FYs 1982-1986), were characterized by strong congressional funding. In its first appearance in the DOD budget, the authorizing and appropriating committees made reference in their respective bills to MILSTAR's capabilities and expectations for strategic communications during a nuclear war. The DOD request for MILSTAR was increased, as an additional \$38 million was authorized and appropriated for the program. At this point, MILSTAR enjoyed good standing with the four Defense Committees.

This good standing continued for the next three fiscal years, as each annual DOD request for MILSTAR was fully authorized and appropriated. This period also revealed the first indicators of congressional concern as the House and Senate Armed Services Committees raised issues about certain problems such as communications interoperability and schedule slippages. These matters notwithstanding, the authorizing committees presented themselves as strong advocates of MILSTAR.

The appropriating committees generally followed their respective authorizing committees in support of MILSTAR. As "guardians of the purse" though, the House and Senate Appropriations Committees could be expected to cast a more "wary" eye at high-cost programs, no matter what their stated purpose. This was the case in FY 1985, as the SAC voiced concern with MILSTAR's non-disclosure of costs. The SAC did appropriate the full requested amount, as MILSTAR was still "riding" the wave of military spending enthusiasm. This first probing of MILSTAR's costs in FY 1985 could

have marked the beginning where the appropriating committees started to take a closer look at MILSTAR since its full costs were not revealed due to the program's security classification.

Fiscal Years 1987-1989 can be identified as the period when the four Defense Committees began to vary slightly in their views of MILSTAR. This could have been attributed to the slow but sure ending of the Cold War with the Soviet Union. These differing views were reflected in FY 1987 as this was the first year where the MILSTAR request from DOD was reduced. The defense authorizing committees made the first cuts and in conference deleted \$25 million from DOD's request.

The views from the authorizers did not carry over to the defense appropriating subcommittees. The Defense Subcommittee of the HAC recommended the full requested amount. Its counterpart in the Senate however, agreed with the authorizers and cut \$25 million. The final appropriation for this year was reduced by the same amount. This was MILSTAR's biggest budget to date, as the end of Communism and the Soviet Union "widened the doors" for Congress to re-evaluate where the nation's dollars were being spent.

The last two fiscal years of 1988 and 1989 showed reduced dollars for MILSTAR, as its mission and purpose were called into question. The defense authorization and appropriation bills from the Defense Committees for these two years were silent on MILSTAR. The program was about to enter a period of intense debate. MILSTAR opposition emerged from various congressional Members and the debate was probably no less involved in the Defense Committees.

Although the Defense Committees at varying times had slightly different views on how much to fund MILSTAR, these four committees were generally in agreement. Given MILSTAR's increasing, but not fully disclosed costs, and the historical developments throughout the former Soviet bloc,

MILSTAR was a program that lent itself to opposition. The American public saw a newer world evolving as preparations for war began to take a lesser place in the nation's priorities; members of Congress reflected these public views. Programs similar to MILSTAR thus became prime targets for termination.

DOD no doubt also foresaw world events and the implications for its roles and missions, and particularly for military acquisition programs. The DOD had to conduct internal reevaluations and work with the Defense Committees to keep programs such as MILSTAR alive. This cooperation enabled DOD to sustain MILSTAR through a turbulent period of changing military missions and responsibilities. This cooperation would later prove to be very beneficial as the early fiscal years of the 1990's were marked by the fiercest debate on the MILSTAR program and key supporters in the Defense Committees would emerge to help keep the program going.

2. Fiscal Years 1990-1995

The early fiscal years of this period were marked by sharp contrasts among the Defense Committees on the fate of MILSTAR. MILSTAR's high costs and schedule slippages had significantly increased congressional oversight and made even strong supporters of DOD programs more critical in their MILSTAR inquiries.

In FY 1990, the HASC and the SASC deleted funds from DOD's request for MILSTAR, as DOD was trying to manage a joint acquisition program through only one of the Services, which caused internal conflicts in DOD. This management problem sent mixed signals to Congress as outwardly DOD fought hard for MILSTAR, but inwardly DOD's program organization led to budget reductions for MILSTAR from the lead service. This further intensified Congress' skepticism of the program.

This mixed signal was very evident as the Appropriation Committees exercised their congressional oversight very differently. The Defense Subcommittee of the HAC recommended termination of MILSTAR after its third satellite. The SAC did not recommend termination, but did direct certain program changes. In conference, the Appropriation Committees did not terminate MILSTAR, but did direct some program restructuring.

FY 1991 was the key year for MILSTAR as the program was restructured through actions by the Defense Committees. Completely contrasting views were very apparent as the HASC recommended the full budget request for MILSTAR, but the SASC recommended program termination. Newer and lower cost alternatives to MILSTAR had been introduced to Congress and this created a competition for congressional satellite communications support. Differing views of the authorizing committees were reconciled in conference, resulting in directions to DOD to terminate MILSTAR or restructure it.

Neither the HAC nor the SAC appropriated funds for MILSTAR. In conference though, the conferees agreed that the MILSTAR program had made significant improvements in cost containment and management. Thus funds were appropriated for MILSTAR to continue, but with very specific directions for program management and restructuring.

Through these two crucial years, each Defense Committee reflected a separate pattern of support for and opposition to MILSTAR. The authorizers and appropriators did not appear to consistently follow their committee counterpart in the opposite House. MILSTAR's debate approached the limits of the range of problems and issues and this broad spectrum contributed to the varied support and opposition from the Defense Committees.

In FYs 1992-1994, the Defense Committees returned to unanimity in support of MILSTAR. Their only deviations were their varying forms and degrees of oversight. MILSTAR's restructuring had convinced the Defense Committees of its new utility and effectiveness for post-Cold War military

conflicts. MILSTAR was on an advancing path, but its history had permanently attracted and increased congressional oversight for its future direction and management.

Congressional oversight in FY 1995 did show a small, but somewhat significant variation from the previous three fiscal years, as an alternative to MILSTAR was presented once more. The main debate however, was again MILSTAR's purpose and its Cold War capabilities as congressional Members outside the Defense Committees sought the program's termination.

Key congressional leaders such as Sen. Sam Nunn (D-Ga.), who was then Chairman of the Senate Armed Services Committee, defended MILSTAR against this old debate. Slightly different views between the committees were evident, as the HASC recommended funds for further research into a MILSTAR alternative, while the SASC determined that no plausible alternative would be available in time to replace all or part of MILSTAR. In conference, the authorizing committees recommended the full amount for MILSTAR and also recommended funds for more research into the alternative.

The appropriating committees followed suit, as the total budget request for MILSTAR was appropriated along with funds for the alternative satellite system. These slight variations seemed to indicate that given new issues and problems, the Defense Committees could once again go in their own direction and give mixed, fragmented support for MILSTAR. As of this writing, MILSTAR is a viable program, but one which is likely to continue to experience intense congressional oversight from the Defense Committees.

The major impact of the Defense Committees was that these committees, by virtue of their authority and power, significantly altered and restructured the MILSTAR program. This power was also exhibited as MILSTAR was almost terminated. The authorizing and appropriating committees exhibited their oversight powers rather equally for MILSTAR,

despite differing viewpoints. A factor that did stand out was that the appropriating committees would exercise as much or more oversight as the authorizing committees. DOD thus has two equally important committees in the appropriators to deal with. No consistent pattern was evident for committees who were for or against MILSTAR.

DOD leaders must continue to seek improvements to strengthen DOD-congressional relations. The next section will discuss program management issues for DOD to consider in working with Congress, whose support must be continually earned.

B. IMPACT OF CONGRESSIONAL OVERSIGHT ON DOD ACQUISITION PROGRAM MANAGEMENT

MILSTAR began as a high-profile acquisition program due to its unique mission, capabilities, and particularly its development and acquisition costs, which surpassed those of most other weapon systems programs. All major acquisition programs receive congressional oversight in one form or another. However, programs such as MILSTAR that are space-related, have unusually high costs, and are incorporating the limits of new and advanced technologies, immediately gain more attention than other more conventional acquisition programs for congressional oversight. MILSTAR also attracted unusual congressional attention because it was a joint acquisition program. Because the Services have a history of not working well together, Congress gave MILSTAR more scrutiny than it otherwise would have.

DOD must be conscious of such considerations and seek consistent improvements for management of potentially volatile programs. These improvements should assist DOD leaders to better present these programs to

Congress so as to improve confidence in DOD and lessen congressional oversight.

A major factor in improving management of acquisition programs is for DOD to study how it can better structure the organization and funding of joint acquisition programs. One of the significant problems of MILSTAR which prompted congressional criticism was the fact that the lead Service, the Air Force, reduced the MILSTAR budget request while DOD leaders were testifying to Congress of MILSTAR's importance and necessity. This communicated a very mixed signal to Congress.

The Air Force funded the major portion of the MILSTAR program through its RDT&E budget line. This funding included common system requirements that applied to all the Services involved. The problem for the Air Force was that certain Service unique requirements, such as for the Army and Navy, were to be funded by the Air Force too. This placed the Air Force, the lead Service, in the untenable position of promoting both a joint program and its own Service-specific programs in a very constrained and competitive budget environment.

DOD should re-examine the joint acquisition program organization to ensure a more unified management approach and to present military acquisition programs with "one voice" to the U. S. Congress. This should help to increase acquisition program success and reduce the degree of congressional oversight to a reasonable level. DOD can at times be its own worst enemy as its own management practices can draw more congressional oversight than required.

The MILSTAR program has stood out as a program from which DOD has learned lessons and one from which more efficient and effective acquisition management practices can be developed. The challenge for DOD is to capitalize on these lessons learned and experiences to improve and thus present itself with more credibility to the U. S. Congress.

C. SUMMARY

It is very evident that Congress, through the budget process, exercises a significant degree of authority in overseeing military acquisition programs. Future acquisition programs are likely to be even more risky and expensive, as new technologies and capabilities will create new programs and challenges for DOD acquisition officials and personnel. Given this potential aspect for future military acquisition programs, DOD can employ some lessons learned from the MILSTAR program to better prepare for its interactions with Congress.

DOD should be more pro-active in assessing its on-going acquisition programs, so as to correctly match these programs to the latest threat during periods of fundamental change. MILSTAR was a program caught in the period of the demise of communism and the subsequent call from Congress for less defense spending. Given its original Cold War mission, the program attracted immediate attention as it maintained this original mission despite a changing threat. Congress, justifiably, responded to the MILSTAR program and made adjustments to reflect the new security environment.

Currently, the U. S. Government has deficit reduction as a major issue to be resolved. Meanwhile, an unstable geo-political world is presenting an ambiguous threat for our nation's armed forces. DOD should assess which acquisition programs, if any, can be altered or even terminated to ensure that preparations for war and the nation's resources are optimized correctly. Beginning this process before Congress gets involved should help reduce unnecessary congressional oversight and give more credibility to DOD.

DOD needs to also re-examine its joint acquisition management structure. It should fully integrate the resources and management from all the Services. The Air Force, the lead Service for MILSTAR, made budget reductions to the program due to the joint management structure of

MILSTAR which did not properly allocate resources. Requirements from the other services were imposed, but no funding from the other Services was provided to support these requirements. DOD should consider new procedures for implementing joint acquisition programs which ensure that the Services that create the demand for system requirements have a corresponding role in paying for them. The impact of "jointness" can have significant consequences for acquisition programs as new and different problems require new and different management.

There is evidence that DOD is beginning to recognize and address the issue of proper management of joint acquisition programs, particularly space-related ones. In a letter dated December 10, 1994, Deputy Defense Secretary John Deutch established the new Deputy Defense Undersecretary for Space Acquisition and Technology Programs (SA&TP) position. This new official is expected to consolidate all DOD space policy and acquisition responsibilities into one office, and serve as DOD's sole spokesperson for space when dealing with Congress and other government agencies. This should help remedy some of the problems that the MILSTAR program experienced. [Endnote 1, p. 50]

Another position to emerge from this new SA&TP office would be the "Space Architect." This two-star flag officer is to be in charge of all resources for U. S. unified space organizations and be responsible for a strategic investment strategy and an integrated budget. This is a key responsibility, as MILSTAR did not have an integrated budget and there was no cohesive DOD space architecture from which to view and thus manage the MILSTAR program effectively. [Endnote 1, p. 50]

This new DOD office, along with its high-profile positions, should help the defense department to present a cohesive position and develop an overall architecture for space. If the SA&TP office had been in existence during the critical periods of MILSTAR, it might have recognized the changing threat

sooner and thus restructured the program in a more timely manner, resolved budget problems more efficiently, and given DOD more credibility with Congress.

The MILSTAR program also exhibited the unique challenge that DOD has in working with the four Defense Committees. Throughout the MILSTAR program, no one authorizing or appropriating committee demonstrated consistent support for or opposition to MILSTAR. Thus, DOD must work separately with each committee in presenting its acquisition programs and realize that satisfying the National Security Committee of the House does not guarantee the same result with the Senate Armed Services Committee. The composition of Members of a committee, rather than the function of the committee, is more than likely the major factor in assessing a committee's potential support. DOD should be aware of this when presenting briefings, submitting reports, and giving testimony to Congress.

If anything, congressional oversight will probably increase and programs such as MILSTAR will find themselves at the center of congressional debate for the allocation of the nation's resources. This sets the challenge for DOD to improve its internal acquisition management, set realistic acquisition goals and objectives, and to seek innovative means to improve its working relationship with Congress. Striving to meet this challenge will help DOD to gain more credibility with the U. S. Congress as DOD leaders present and suggest better ways of managing acquisition programs, both in DOD and in conjunction with the Congress. This should improve the acquisition process as the Congress and the DOD work to equip our nation's armed forces with the best technology, given the realities of a restricted budget environment.

D. RECOMMENDATIONS FOR FURTHER RESEARCH

Congressional budgetary oversight is a permanent fixture in military acquisition programs. With new technologies and innovations appearing more frequently in today's world, DOD leaders will be continually seeking new advancements to ensure that any future military conflict concludes with U. S. national security interests intact. This will require that the nation's armed forces have the best equipment and technology available to guarantee success.

This places the burden on the front-end "players" of the DOD acquisition process. Given many different and competing demands for our nation's resources, Congress will continue to focus on DOD as a source of funds for deficit reduction and other national interests. Military acquisition programs may bear the brunt of such cuts, as these programs mostly only exist on paper and thus do not have a significant impact on current operations.

Consequently, further research may be considered to help DOD leaders and acquisition officials to better manage acquisition programs and improve their relations with Congress. The following areas may prove to be beneficial:

1. Possible lessons learned from other high-profile, space-related programs such as MILSTAR should be examined for events that influenced congressional oversight through the budget process.
2. DOD joint acquisition program management and organization should be reviewed for possible improvements.
3. A cost/benefit analysis of total MILSTAR life-cycle costs should be conducted to determine whether savings were actually achieved by restructuring MILSTAR and not replacing it with an advanced satellite system.

ENDNOTES

1. Scott, William B., "Architect to Reshape Defense Space Policy," *Aviation Week and Space Technology*, February 20, 1995.

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